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ABSTRACT

The first summaries of the CAUSE National Database, which was established in 1980, are presented. The database is updated annually to provide members with baseline reference information on the status of administrative information systems in colleges and universities. Information is based on responses from 350 CAUSE member campuses, which are described in terms of control, type, and size. Detailed findings are presented concerning administrative information systems organization, staffing, budgeting, computer hardware and communications, and software. It was found that the larger, more complex institutions were more likely to have separate administrative computing installations, even though 69 percent of responding institutions reported combined academic and administrative installations. When detailed information about full-time-equivalent staff in each administrative information systems organization was analyzed by five major staff categories, little difference was noted regarding the distribution among the major institutions groups (management, analysts/programmers, systems programmers, operations, and clerical). Almost three-fourths of the institutions were spending between one and four percent of their total operating budget on administrative computing. Differences between public and private institutions, and between 2- and 4-year institutions are examined. Charts are presented that show the distribution of computers by the major institutional groups and by the 10 leading manufacturers. Information concerning the use of proprietary software and administrative applications is presented. Appended materials include questionnaires, information on research methodology, a list of participating institutions, and a bibliography. (SW)

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MONOGRAPH
SERIES

Administrative Information Systems: The 1980 Profile

By
Charles R. Thomas

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Preface

This Monograph is the first summary of the CAUSE National Database established in 1980 from the CAUSE Member Institution Profiles. This database is maintained by CAUSE to provide members with summary statistics and detailed information on the current status of administrative information systems activities in member colleges and universities.

The summaries of the responses to the 1980 Profile have provided a wealth of information that should be helpful to CAUSE members as they plan and evaluate administrative information systems activities. As the Profiles of additional CAUSE member campuses are added to the CAUSE National Database, the information in future editions of this document will become increasingly useful to members.

Each CAUSE voting representative receives one copy of a CAUSE Monograph as a benefit of membership. Additional copies are available to all staff of member institutions at the member rate, and to others at the non-member rate.

Suggestions or contributions of material for additional CAUSE Monographs should be directed to the CAUSE National Office for review by the Publications and Library Committee of the CAUSE Board of Directors.

Charles. R. Thomas
Executive Director
CAUSE

About CAUSE

CAUSE, the Professional Association for Development, Use, and Management of Information Systems in Higher Education, helps member institutions strengthen their management capabilities through improved information systems.

CAUSE provides member institutions with many services to increase the effectiveness of their administrative information systems. These services include: the Exchange Library, which is a clearinghouse for non-proprietary information and systems contributed by members; an Information Request Service to locate specific systems or information; consulting services to review AIS organization and management plans; organizational publications including a bi-monthly newsletter, a bi-monthly professional magazine and the CAUSE Monographs; and the CAUSE National Conference.

Additional details on the CAUSE organization and activities may be obtained from the CAUSE National Office in Boulder, Colorado.

About the Author

Charles R. Thomas, Executive Director of CAUSE since incorporation in 1971, is responsible for the administration and operation of the CAUSE National Office and represents CAUSE to the higher education community.

Entering the field of computing in 1958 by learning to program ILLIAC-I, Mr. Thomas was assistant director of administrative data processing at the University of Illinois until 1969, when he became one of the original staff members of the National Center for Higher Education Management Systems in Boulder, Colorado.

Mr. Thomas has authored many articles and given many presentations on higher education administrative information systems at national meetings and workshops. In addition to representing CAUSE at the annual meetings of many professional associations, he has attended the last 22 College and University Machine Records Conferences and is a member of the American Association for Higher Education, the Association of Institutional Research, and the American Society of Association Executives. Mr. Thomas also serves on the National Advisory Council of the National Center for Higher Education Management Systems and on the National Commission on the Future of Regis College in Denver, Colorado.

Foreword

Automated information systems have been in existence in most colleges and universities for only slightly more than two decades. What began as a relatively modest task of scheduling students and instructors into the same place at the same time has become an indispensable tool in the operation and management of nearly every college and university in the country.

A major difficulty encountered in this, as in any new field, is the lack of historical data which can be used, along with judgement, knowledge and experience to guide actions and decisions. Questions such as "How does our budget compare with that of other, comparable institutions?", and "Do most large universities have separate or combined computing facilities?" have been almost impossible to answer with confidence. Data that have been available have too often been out-of-date or incomplete. More often than not, there were simply no data available and such questions were answered on the basis of personal knowledge.

With the publication of this Monograph, CAUSE has initiated an unprecedented effort to provide current, accurate data

FOREWORD

concerning the use and management of information systems in a significant sample of the total college and university population. Perhaps of even more importance is the commitment to publish a new monograph based upon the CAUSE Member Institution Profile survey forms each year. Since these future monographs will contain the most recent data collected, along with the data over a period of years, it should become possible to detect trends in higher education information systems use and management while there is still time to act on that information.

Gary Devine
Director
Management Systems
University of Colorado

Administrative Information Systems: The 1980 Profile

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Chapter 1

Executive Summary

This Monograph provides the first summaries of the CAUSE National Database, which was established in 1980. The database is updated annually to provide members with baseline reference information on the status of administrative information systems in colleges and universities. Although colleges and universities conduct both administrative and academic computing activities, this Monograph is concerned only with administrative computing, and does not describe academic computing activities.

The information in this Monograph is based on responses from 350 CAUSE member campuses, representing approximately 10% of the 3,370 institutions listed in the 1980-81 Education Directory.¹ While no statistical analyses are made to show that the responding institutions are representative of all colleges and universities, Table 1 shows the distribution of the responding institutions by control, type and size and Table 2 shows the same distribution for all institutions in the U.S. Table 3 shows the percent of responding institutions in each institutional group.

To provide a common reference format, most of the information in this Monograph is summarized by institutional

¹Carolyn R. Smith and Geneva C. Davis, Education Directory, Colleges & Universities 1980-81 (Washington, D.C.: National Center for Education Statistics, 1981).

control, type and size. Details on the survey methodology and institutional categories appear in Appendix B: Methodology. Where appropriate, several of the responses are also summarized for separate administrative computing installations and for combined academic/administrative installations.

The information is presented in a format that will allow development of trends when data from future Profiles are available.

Table 1
DISTRIBUTION OF RESPONDING INSTITUTIONS

CONTROL	PUBLIC INSTITUTIONS				PRIVATE INSTITUTIONS				ALL INSTITUTIONS			
	UNIV	4-YR	2-YR	ALL	UNIV	4-YR	2-YR	ALL	UNIV	4-YR	2-YR	ALL
SMALL	1	10	11	22	41			41	1	51	11	63
TYPE %	5%	45%	50%	100%	100%			100%	2%	81%	17%	100%
SIZE %	1%	9%	10%	8%	6%			4%	1%	20%	18%	10%
MEDIUM	18	56	33	107	15	19	1	35	33	75	34	14%
TYPE %	17%	52%	31%	100%	43%	54%	1%	100%	24%	53%	24%	100%
SIZE %	21%	49%	54%	41%	80%	30%	100%	39%	30%	42%	55%	41%
N-LARGE	25	41	8	74	8	3		11	33	44	8	85
TYPE %	34%	55%	11%	100%	73%	27%		100%	39%	57%	9%	100%
SIZE %	30%	36%	13%	28%	32%	5%		12%	30%	25%	13%	24%
LARGE	40	8	9	57	2	1		3	42	9	9	68
TYPE %	70%	14%	16%	100%	67%	33%		100%	78%	15%	15%	100%
SIZE %	48%	7%	15%	22%	8%	2%		3%	39%	5%	13%	17%
TOTAL	64	117	61	260	75	64	1	90	119	179	62	350
TYPE %	32%	44%	23%	100%	28%	71%	1%	100%	31%	51%	18%	100%
SIZE %	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

SIZE IS BASED ON ENROLLMENT: SMALL = ZERO - 1,999 M-LARGE = 8,000 - 17,999
MEDIUM = 2,000 - 7,999 LARGE = 18,000 AND OVER

Table 2
DISTRIBUTION OF ALL U.S. INSTITUTIONS

COUNTRY	PUBLIC INSTITUTIONS				PRIVATE INSTITUTIONS				ALL INSTITUTIONS			
	UNIV	4-YR	2-YR	ALL	UNIV	4-YR	2-YR	ALL	UNIV	4-YR	2-YR	ALL
NUMBER	191	846	24	1041	1	177	347	524	1	1278	243	565
PERCENT	10%	40%	1%	100%	0%	7%	23%	100%	0%	67%	30%	100%
STUDENTS	235	865	365	1465	75	835	975	1885	15	885	605	1505
PERCENT	5	258	377	641	24	223	18	265	38	461	387	885
PERCENT	1%	36%	61%	100%	9%	37%	4%	100%	3%	53%	44%	100%
STUDENTS	65	515	295	875	365	165	35	195	195	255	295	645
PERCENT	29	111	111	251	32	11	49	92	213	112	111	294
PERCENT	12%	44%	44%	100%	74%	26%	21%	100%	21%	41%	38%	100%
STUDENTS	105	295	115	515	485	15	25	525	385	65	85	475
PERCENT	61	28	36	117	9			9	78	28	36	126
PERCENT	55%	17%	33%	100%	100%			100%	56%	16%	29%	100%
STUDENTS	645	45	45	735	145			145	435	15	35	485
TOTAL	98	478	978	1554	65	141	357	562	162	1481	1327	3370
PERCENT	45	31%	62%	100%	45	77%	19%	100%	5%	56%	39%	100%
STUDENTS	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

SIZE IS BASED ON ENROLLMENT: SMALL = ZERO - 1,999 M-LARGE = 8,000 - 17,999
MEDIUM = 2,000 - 7,999 LARGE = 18,000 AND OVER

Table 3
PERCENT OF U.S. INSTITUTIONS REPRESENTED

	PUBLIC INSTNS				PRIVATE INSTNS				ALL INSTNS			
	UNIV	4-YR	2-YR	ALL	UNIV	4-YR	2-YR	ALL	UNIV	4-YR	2-YR	ALL
NUMBER	1	10%	22%	4%	1	32%	1	3%	1	42%	12%	3%
PERCENT	* 1	24%	92%	100%	63%	95%	100%	100%	* 1	16%	95%	100%
PERCENT	166%	35%	75%	29%	25%	27%	1	26%	54%	36%	75%	29%
PERCENT	66%	40%	55%	100%	22%	* 1	1	33%	60%	45%	55%	100%
STUDENTS	100%	45%	65%	100%	100%	55%	1	55%	67%	100%	55%	100%

* INDICATES MORE RESPONSES IN CELL THAN TO U.S.
CALCULATED BY NON-U.S. INSTITUTIONS RESPONDING

Where appropriate, pie and bar charts (Figures) are used to make information easier to understand. For example, Figures 1, 2 and 3 show the distribution of the responding institutions by control, type and size graphically.

Figure 1
ALL RESPONDING INSTITUTIONS
By Control



Figure 2
ALL RESPONDING INSTITUTIONS
By Type

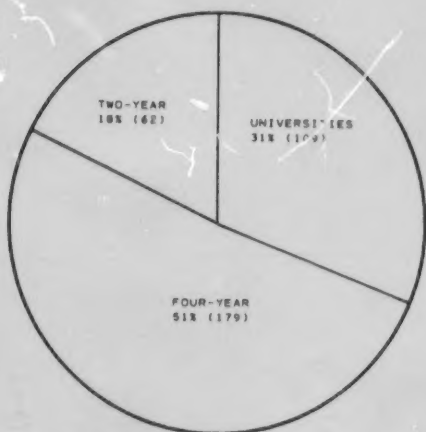


Figure 3
ALL RESPONDING INSTITUTIONS
By Size



Chapters 2 through 6 deal with the detailed findings concerning administrative information systems organization, staffing, budgeting, computer hardware and communications, and software. Summaries of each of those chapters follow.

Organization

Separate versus Combined Computing Installations. Responses to the 1980 Profile indicate that the larger, more complex institutions are more likely to have separate administrative computing installations, even though 69% of responding institutions report combined academic and administrative installations. Separate administrative installations are reported by 43% of the large universities and by only 10% of the two-year institutions.

Reporting Level. Colleges and Universities are following a general trend evident in industry with the administrative information systems organization reporting to the

vice-president or higher level in almost three-fourths of the responding institutions. As institutional size and complexity increases, however, it is more likely that AIS will report to an office below the vice-president level.

A special analysis related the average number of administrative applications to the officer to whom the AIS organization reports. This analysis indicates that AIS organizations reporting to the executive vice president report the highest average number of applications as well as the most online applications. AIS organizations reporting to an academic vice president report the lowest average number of applications, and those reporting below the vice president level have the lowest number of online applications.

Staffing

When detailed information about full-time equivalent (FTE) staff in each administrative information systems organization was analyzed by five major staff categories, little difference was noted among the major institutional groups. The distribution for all responding institutions was:

Management	11%
Analysts/Programmers	38%
Systems Programmers	7%
Operations	34%
Clerical	10%

Only information reported by small institutions varied more than one or two percent from this distribution. In those institutions, the actual distribution of effort is probably similar, since each staff member may handle tasks in more than one staff area.

When compared to similar information from five years ago, the share of clerical staff shows a drop from 15% to 10% of total staff, and the management staff decreased from 14% to 10% in public institutions and from 18% to 13% in private institutions. The operations staff category has remained at 34% since 1976. The 1976 information did not differentiate systems programmers from analysts/programmers, so the

34-37% reported in 1976 is comparable to 45% in 1980, representing a significant increase in that staff category.

Average staff size was examined for each of the four size groups, and it was noted that public institutions generally report larger staff sizes than do private institutions of similar size. Average staff size is also related to institutional complexity, with universities reporting the largest, and two-year institutions reporting the smallest. Also, in most size groups, the separate administrative installations report a larger staff than the combined academic/administrative installations. This situation is undoubtedly due to the sharing of most of the staff resources in the combined installations.

Budgets

The annual budgets for administrative information systems are difficult to compare for many reasons explained in Chapter 4; however, the differences tend to average out when the data from a substantial number of similar institutions are aggregated.

The AIS annual budget reported by each responding institution was divided by that institution's annual operating budget to determine a percentage for comparison. On this basis, almost three-fourths of the institutions are spending between 1% and 4% of their total operating budget on administrative computing. Only 5% of the institutions report an AIS budget that is less than 1% of the institution's budget; however, 24% report AIS budgets that are 4% of the institution's budget or greater. Twenty-eight percent of the public institutions are in this high range as compared to only 12% of the private institutions. Over half of the two-year institutions and the large institutions are in the 4% or more budget category.

While the amount spent on administrative information systems is of interest to many administrators, it should be recognized that expenditures measure only one input to the process; what is accomplished for the amount spent

represents output, and both must be considered in any evaluation.

Institutional administrators should be interested in the percentage of the total institutional budget represented by administrative information systems expenditures; however, they should also monitor the amount spent on total administration each year. This point is explained in more detail in Chapter 4.

The distribution of the AIS budget by expenditure category is shifting dramatically from computer hardware to people. Since 1976, hardware costs have dropped from 45% to 28% of the budget while staff costs have risen from 35% to over 50%. This trend is likely to continue as computer hardware costs decline each year and staff costs rise at an increasing rate.

Computer Hardware and Communications

Using a distribution based on a simple count of computers listed by manufacturer, ten "leading" companies account for 87% of the computers listed on the 1980 Profile by 350 responding institutions. Forty-four other companies accounted for the other 13%. The information in Chapter 5 indicates that IBM still leads the pack, accounting for 37% of the computers reported. Digital Equipment Corporation is second with 17%, and none of the eight other "leading" companies accounted for any more than 7% of the computers reported.

Chapter 5 contains bar charts that show the distribution of computers reported, both by the major institutional groups, and by the ten "leading" companies.

In the area of computer communications, 87% of all responding institutions, and 97% of the large institutions, report the use of interactive computing. As could be expected, the average number of interactive devices is basically a function of institutional size; however, even the

small institutions report an average of twenty interactive devices.

Remote-job-entry computing was reported by over half of the responding institutions, ranging from 75% of the large institutions to 22% of the small institutions. The average number of remote-job-entry sites also is a function of institutional size, ranging from seven for large institutions to one for small institutions.

Software

Proprietary Software. The use of proprietary software is clearly increasing in colleges and universities, so the 1980 Profile gathered data on which packages are in use. A cursory analysis of the 1,169 proprietary packages reported indicates that 10% are database or file management systems, 17% are application packages, and the remaining 73% fall into the "miscellaneous" category of utility programs, programming languages, statistical packages, text editors and similar packages. Detailed listings of the most often reported proprietary packages appear in Chapter 6.

Administrative Applications. The CAUSE National Database requested information on 144 administrative applications in eleven application areas. The eleven areas were chosen to be roughly equivalent to the appropriate sections of the NCHEMS Program Classification Structure,² and the 144 applications were based on the Fourth Inventory of Computers in Higher Education 1976-77³ (FICHE), with several additions.

²Douglas J. Collier, Program Classification Structure, Technical Report 106, 2nd Edition (Boulder, Colorado: National Center for Higher Education Management Systems, 1978).

³John W. Hamblen and Thomas B. Baird, eds., Fourth Inventory of Computers in Higher Education 1976-77 (Princeton, New Jersey: EDUCOM, 1979), p. XII--Form No. 4.

Almost 18,000 administrative applications were reported in production by the 350 responding institutions, with an average of 51 applications per institution. Private institutions more than tripled the number of applications since 1976, while public institutions experienced a 70% gain in the same time period. Large institutions reported an average of 68, while small institutions reported an average of 33 applications per institution.

As might be expected, Admissions & Records applications are the most frequently reported applications, with Financial Management second and Planning, Management and Institutional Research third. The Admissions & Records and Financial Management areas account for 55% of all applications reported, and the other nine areas account for the remaining 45%. Physical Plant applications are the least reported, accounting for only 2% of the total.

The percentage of administrative computing applications operating in an online mode has generally doubled since 1976 for all institutional groups. On the 1980 Profile, two-year institutions and small institutions report the highest percentage of online applications in production (43% and 36%).

Detailed information on administrative applications reported by the 350 responding institutions is presented in Chapter 6.

Future Profiles

The 1980 Profile established the CAUSE National Database and provided data for this Monograph. Beginning in July 1981, CAUSE member campuses began receiving a revised Profile that incorporates several minor changes resulting from experience with the 1980 Profile.

The most significant changes in the updated profiles are related to the staff and budget information for combined academic/administrative computing installations. Also, the

Proprietary Software section includes separate response areas for application, database and other packages, and information on the programming languages in use is requested.

The 1980 Profile requested respondents to list any administrative computing applications in production that did not appear on the Profile. Seven additional applications have been added to the 1981 Profile, making a total of 151 possible administrative computing applications in the CAUSE National Database. This monitoring process will continue with future profiles.

The production modes requested on the 1980 Profile were "batch" and "online." For 1981, a new "distributed processing" mode has been added so it will be possible to monitor application activity in all of the major processing modes. Definitions of these processing modes are contained in Appendix B: Methodology.

Appendices

To supplement the information in this Monograph, several appendices were added. These Appendices contain the 1980 CAUSE Member Institution Profile survey forms, an explanation of the methodology employed to establish the CAUSE National Database and changes anticipated for the 1981 Profile, a list of the 350 institutions whose responses were used to develop the information presented in this Monograph, a list of the figures and tables, and selected references.

Chapter 2 Organization

The organizational structure and reporting for computing is unique to each institution; however, the analyses of the 1980 Profiles suggest that there are some general patterns within the institutional groups. The information in this Chapter may be helpful to institutions in reviewing the organization of their computing in light of the organizational patterns at over 300 institutions.

The 1980 Profile has established one data point on the organization and reporting for computing in higher education. As future Profiles are added, it will be possible to monitor and report trends as well as current information in this area.

Separate vs. Combined Academic/Administrative Computing

For many years the question of separate versus combined academic/administrative computing has been considered by college and university administrators. At any point in time, several combined organizations are being re-organized into separate installations, and several separate installations are being combined. Further, it is possible to identify successes and failures in each type of computing organization. The distinction between separate and combined installations is still of concern to many institutions; however, changing modes of operation may make this distinction less important in the future. As distributed processing centers are placed in administrative offices and communications are established with both academic and administrative computers,

both on-campus and off-campus, and as academic departments make increasing use of microcomputers that will also communicate, it may be difficult to classify institutional computing as "separate" or "combined." Individual installations will, however, generally continue to be classified by their primary mission, and it is likely that one organization will be charged with the coordination of administrative information systems.

The 1980 Profile does not provide a solution to the continuing debate on separate versus combined computing. It does, however, provide some insight into the current organizational structure in use by institutions in the various groups.

Of the 350 colleges and universities responding to the 1980 Profile, 69% (242) operate combined academic/administrative computing installations and 31% (108) operate separate administrative installations. Public and private institutions report about the same percentage of combined versus separate installations; however, universities report the highest percentage of separate installations (41%). Four-year institutions are right at the average for all institutions, while two-year institutions report the highest percentage of combined installations (90%).

The data by institutional type suggest that the complexity of the institution affects the organizational structure chosen. By institutional size, the larger the institution the more likely that administrative computing will be handled in a separate installation, except that the small institutions report about the same percentage of combined and separate installations as the average for all responding institutions.

Figure 4 summarizes the percentages of institutions reporting separate and combined installations for the major institutional groups, while Table 4 provides complete details for all institutional groups.

Figure 4
ORGANIZATION OF COMPUTING
By Major Institutional Groups

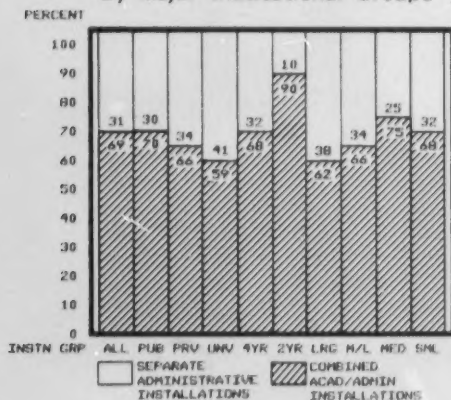


Table 4
ORGANIZATION OF COMPUTING
All Responding Institutions

---CONTROL=ALL	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=SMALL	COUNT PCT	COUNT PCT	COUNT PCT	COUNT PCT
SEPARATE INSTALLATN	10 35X	1 9X	20 32X	
COMBINED INSTALLATN	33 65X	10 91X	43 68X	
TOTAL REPORTED	1	51 100X	11 100X	63 100X
---CONTROL=ALL	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=MEDIUM	COUNT PCT	COUNT PCT	COUNT PCT	COUNT PCT
SEPARATE INSTALLATN	14 42X	4 12X	36 25X	
COMBINED INSTALLATN	19 58X	30 88X	106 75X	
TOTAL REPORTED	33 100X	75 100X	34 100X	142 100X
---CONTROL=ALL	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=M-LARGE	COUNT PCT	COUNT PCT	COUNT PCT	COUNT PCT
SEPARATE INSTALLATN	12 36X	16 36X	1 13X	29 34X
COMBINED INSTALLATN	21 64X	28 64X	7 88X	56 66X
TOTAL REPORTED	33 100X	44 100X	8 100X	85 100X
---CONTROL=ALL	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=LARGE	COUNT PCT	COUNT PCT	COUNT PCT	COUNT PCT
SEPARATE INSTALLATN	10 43X	5 56X	0	23 38X
COMBINED INSTALLATN	24 57X	4 44X	9 100X	37 62X
TOTAL REPORTED	42 100X	9 100X	9 100X	60 100X
---CONTROL=ALL	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=ALL	COUNT PCT	COUNT PCT	COUNT PCT	COUNT PCT
SEPARATE INSTALLATN	45 41X	57 32X	6 10X	108 31X
COMBINED INSTALLATN	64 59X	122 68X	56 90X	242 69X
TOTAL REPORTED	109 100X	179 100X	62 100X	350 100X

Table 4 (continued)

Public Institutions

--CONTROL=PUBLIC	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=SMALL	COUNT PCT	COUNT PCT	COUNT PCT	COUNT PCT
SEPARATE INSTALLATN	8 44%	9 40%	1 9%	5 27%
COMBINED INSTALLATN	10 56%	6 60%	10 91%	16 73%
TOTAL REPORTED	1	10 100%	11 100%	22 100%
--CONTROL=PUBLIC	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=MEDIUM	COUNT PCT	COUNT PCT	COUNT PCT	COUNT PCT
SEPARATE INSTALLATN	8 44%	13 23%	4 12%	25 33%
COMBINED INSTALLATN	10 56%	43 77%	29 88%	82 77%
TOTAL REPORTED	18 100%	56 100%	33 100%	107 100%
--CONTROL=PUBLIC	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=4-LARGE	COUNT PCT	COUNT PCT	COUNT PCT	COUNT PCT
SEPARATE INSTALLATN	9 36%	15 37%	1 13%	25 34%
COMBINED INSTALLATN	16 64%	26 63%	7 88%	49 66%
TOTAL REPORTED	25 100%	41 100%	8 100%	74 100%
--CONTROL=PUBLIC	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=LARGE	COUNT PCT	COUNT PCT	COUNT PCT	COUNT PCT
SEPARATE INSTALLATN	16 40%	5 63%	0%	21 37%
COMBINED INSTALLATN	24 60%	3 38%	9 100%	36 63%
TOTAL REPORTED	40 100%	8 100%	9 100%	57 100%
--CONTROL=PUBLIC	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=ALL	COUNT PCT	COUNT PCT	COUNT PCT	COUNT PCT
SEPARATE INSTALLATN	34 40%	37 32%	6 10%	77 30%
COMBINED INSTALLATN	50 60%	78 68%	55 90%	183 70%
TOTAL REPORTED	84 100%	115 100%	61 100%	260 100%

Private Institutions

--CONTROL=PRIVATE	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=SMALL	COUNT PCT	COUNT PCT	COUNT PCT	COUNT PCT
SEPARATE INSTALLATN		14 34%		14 34%
COMBINED INSTALLATN		27 56%		27 66%
TOTAL REPORTED		41 100%		41 100%
--CONTROL=PRIVATE	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=MEDIUM	COUNT PCT	COUNT PCT	COUNT PCT	COUNT PCT
SEPARATE INSTALLATN	6 40%	5 26%		11 31%
COMBINED INSTALLATN	9 60%	14 74%		24 69%
TOTAL REPORTED	15 100%	19 100%	1	35 100%
--CONTROL=PRIVATE	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=M-LARGE	COUNT PCT	COUNT	COUNT PCT	COUNT PCT
SEPARATE INSTALLATN	3 38%			4 36%
COMBINED INSTALLATN	5 63%			7 64%
TOTAL REPORTED	8 100%	3		11 100%
--CONTROL=PRIVATE	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=LARGE	COUNT PCT	COUNT	COUNT PCT	COUNT PCT
SEPARATE INSTALLATN				1
COMBINED INSTALLATN				
TOTAL REPORTED	2	1		3
--CONTROL=PRIVATE	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=ALL	COUNT PCT	COUNT PCT	COUNT PCT	COUNT PCT
SEPARATE INSTALLATN	11 44%	20 31%		31 34%
COMBINED INSTALLATN	14 56%	44 69%		59 66%
TOTAL REPORTED	25 100%	64 100%	1	90 100%

AIS Reporting

In the early years of administrative data processing in colleges and universities, the function usually reported to the business office or to the admissions and records office. This practice was logical, since early data processing applications usually involved simple automation of clerical tasks. As administrative information has become more integrated across functional lines, institutions have followed the trends in industry with the administrative information systems function reporting to a higher level of management with broad responsibilities for general administration.

The responses to the 1980 Profile indicate that the administrative information systems function reports to the vice-president or higher level in over three-fourths of the institutions.

Administrative information systems organizations report to the president most often in two-year institutions (18%) and least often in universities (5%). The percentage of institutions with AIS reporting to the vice-president level is reasonably consistent for all of the major institutional groups (62-69%) with minor differences within each of the specific vice-presidential areas (executive, administrative, academic, and business).

As might be expected, separate administrative installations are more likely to report to the administrative vice-president, or to another officer below the vice-presidential level, than are the combined academic/administrative installations. It is interesting to note, though, that combined installations report to the business vice-president more often than do separate installations.

Figure 5 shows the distribution of the responses to the reporting question for all 350 responding institutions and Figures 6 and 7 show the same information for separate and combined installations. Figures 8 through 13 show the percentages of institutions reporting to each of the administrative officers listed on the Profiles. Complete details are presented in Tables 5, 6 and 7.

Figure 5
AIS REPORTING
All Responding Institutions



Figure 6
AIS REPORTING
Separate Administrative Installations

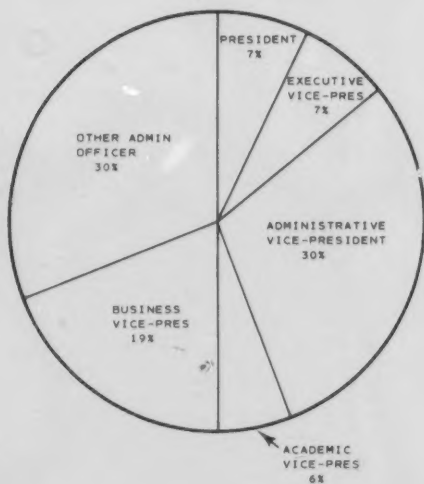
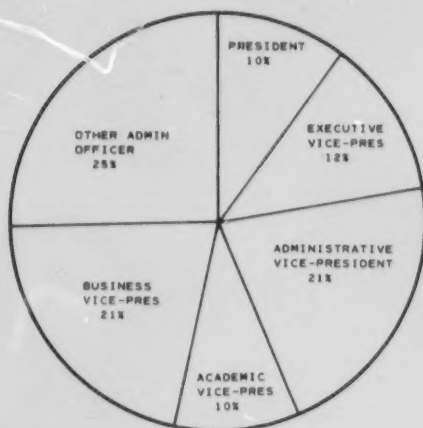


Figure 7
AIS REPORTING
Combined Academic/Administrative Installations



Figures 8 through 13 summarize the reporting responses by administrative title for all of the major institutional groups. Data in these Figures indicate that administrative information systems is more likely to report to the president in small institutions (13%) and in two-year institutions (18%) than in universities (5%) and four-year institutions (9%). In public institutions, AIS is more likely to report to the administrative vice-president, while the business vice-president is more likely to supervise the function in private institutions.

As could be predicted, separate administrative installations report predominately to the administrative vice-president, while combined academic/administrative installations follow the general reporting pattern more closely.

Detailed summaries on reporting are shown in Table 5. The "AIS REPORTS TO" question is one of those summarized by separate versus combined installations, and Tables 6 and 7 contain those detailed summaries.

The 1980 Profile did not provide for a specific response to the "OTHER" category, so the exact titles in this category are unknown. Since the "OTHER" category was checked by 26% of the responding institutions, the 1981 Profile will request titles so the reporting structure may be analyzed in more detail in the future.

Figure 8

AIS REPORTS TO: PRESIDENT

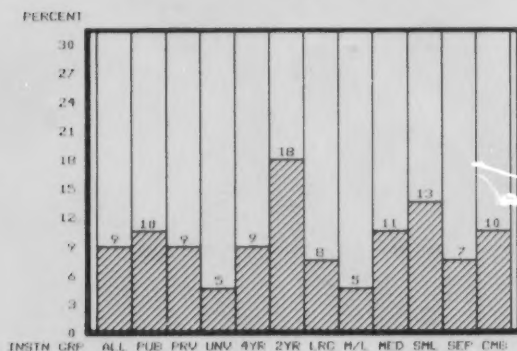


Figure 9

AIS REPORTS TO: EXECUTIVE VICE PRESIDENT

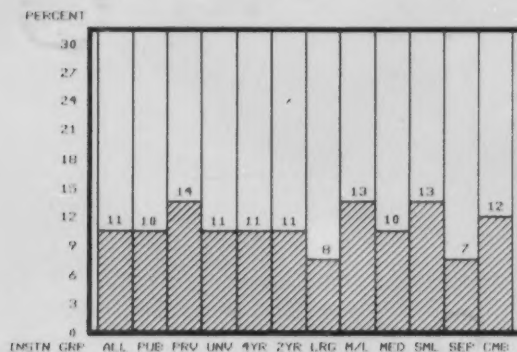


Figure 10

AIS REPORTS TO: ADMINISTRATIVE VICE PRESIDENT

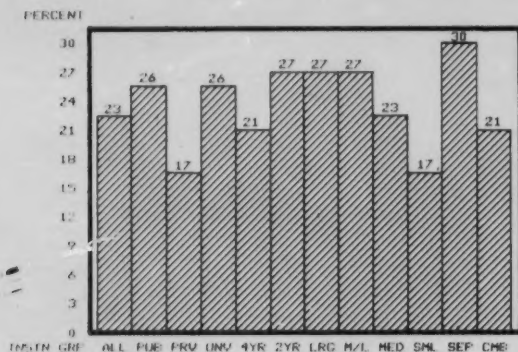


Figure 11

AIS REPORTS TO: ACADEMIC VICE PRESIDENT

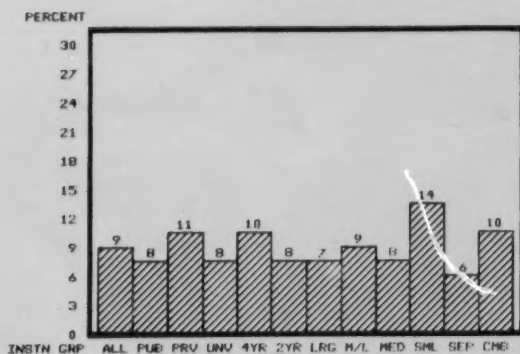


Figure 12

AIS REPORTS TO: BUSINESS VICE PRESIDENT



Figure 13

AIS REPORTS TO: OTHER ADMINISTRATIVE OFFICER

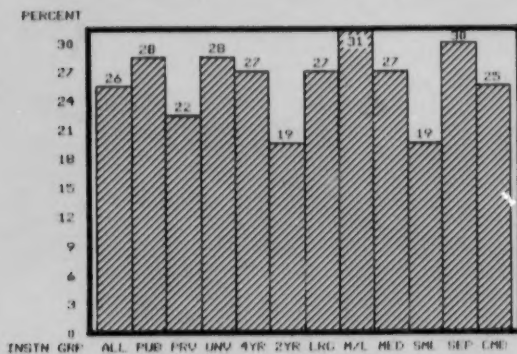


Table 5

ADMINISTRATIVE INFORMATION SYSTEMS REPORTING
All Responding Institutions

CONTROL-ALL SIZE=SMALL	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
PRESIDENT			6	12%	2	10%	8	13%
EXECUTIVE VICE PRES			7	14%		0%	8	13%
ADMIN VICE PRES			7	14%	4	36%	11	17%
ACADEMIC VICE PRES			6	12%	3	27%	9	14%
BUSINESS VICE PRES			14	27%	1	9%	15	24%
OTHER OFFICER			11	22%	1	9%	12	19%
TOTAL REPORTED	1		51	100%	11	100%	63	100%
CONTROL-ALL SIZE=MEDIUM	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
PRESIDENT	1	3%	7	9%	8	24%	16	11%
EXECUTIVE VICE PRES	4	12%	7	9%	3	9%	14	10%
ADMIN VICE PRES	8	24%	13	17%	11	32%	32	23%
ACADEMIC VICE PRES	3	9%	7	9%	1	3%	11	8%
BUSINESS VICE PRES	9	27%	17	23%	5	15%	31	22%
OTHER OFFICER	8	24%	24	32%	6	18%	38	27%
TOTAL REPORTED	33	100%	75	100%	34	100%	142	100%
CONTROL-ALL SIZE=M-LARGE	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
PRESIDENT	1	3%	2	5%	1	13%	4	5%
EXECUTIVE VICE PRES	5	15%	5	11%	1	13%	11	13%
ADMIN VICE PRES	7	21%	15	34%	1	13%	23	27%
ACADEMIC VICE PRES	3	9%	4	9%	1	13%	8	9%
BUSINESS VICE PRES	4	12%	8	18%	1	13%	13	15%
OTHER OFFICER	13	39%	10	23%	3	38%	26	31%
TOTAL REPORTED	33	100%	44	100%	8	100%	85	100%
CONTROL-ALL SIZE=LARGE	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
PRESIDENT	3	7%	2	22%		0%	5	8%
EXECUTIVE VICE PRES	2	5%		0%	3	33%	5	8%
ADMIN VICE PRES	13	31%	2	22%	1	11%	16	27%
ACADEMIC VICE PRES	3	7%	1	11%		0%	4	7%
BUSINESS VICE PRES	11	26%		0%	3	33%	14	23%
OTHER OFFICER	10	24%	4	44%	2	22%	16	27%
TOTAL REPORTED	42	100%	9	100%	9	100%	68	100%
CONTROL-ALL SIZE=ALL	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
PRESIDENT	5	5%	17	9%	11	10%	33	9%
EXECUTIVE VICE PRES	12	11%	19	11%	7	11%	38	11%
ADMIN VICE PRES	28	26%	37	21%	17	27%	82	23%
ACADEMIC VICE PRES	9	8%	18	10%	5	8%	32	9%
BUSINESS VICE PRES	24	22%	39	22%	10	16%	73	21%
OTHER OFFICER	31	28%	49	27%	12	19%	92	26%
TOTAL REPORTED	109	100%	179	100%	42	100%	358	100%

Table 5 (continued)

ADMINISTRATIVE INFORMATION SYSTEMS REPORTING
Public Institutions

--CONTROL=PUBLIC --SIZE=SMALL		TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
PRESIDENT			1	10%		2	10%	3	14%
EXECUTIVE VICE PRES			1	10%			0%	2	9%
ADMIN VICE PRES			4	40%		4	36%	8	36%
ACADEMIC VICE PRES			1	10%		3	27%	4	18%
BUSINESS VICE PRES			1	10%		1	9%	2	9%
OTHER OFFICER			2	20%		1	9%	3	14%
TOTAL REPORTED	1		10	100%		11	100%	22	100%
--CONTROL=PUBLIC --SIZE=MEDIUM		TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
PRESIDENT		1	4%	5	9%	8	24%	14	13%
EXECUTIVE VICE PRES		3	17%	4	7%	3	9%	10	9%
ADMIN VICE PRES		4	22%	10	18%	10	30%	24	22%
ACADEMIC VICE PRES		1	4%	5	9%	1	3%	7	7%
BUSINESS VICE PRES		3	17%	14	25%	5	15%	22	21%
OTHER OFFICER		6	33%	18	32%	6	18%	30	28%
TOTAL REPORTED		10	100%	56	100%	33	100%	107	100%
--CONTROL=PUBLIC --SIZE=LARGE		TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
PRESIDENT		1	4%	2	5%	1	13%	4	5%
EXECUTIVE VICE PRES		2	8%	5	12%	1	13%	8	11%
ADMIN VICE PRES		6	24%	13	32%	1	13%	20	27%
ACADEMIC VICE PRES		3	12%	3	7%	1	13%	7	9%
BUSINESS VICE PRES		2	8%	8	20%	1	13%	11	15%
OTHER OFFICER		11	44%	10	24%	3	38%	24	32%
TOTAL REPORTED		25	100%	41	100%	8	100%	74	100%
--CONTROL=PUBLIC --SIZE=LARGE		TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
PRESIDENT		3	8%	1	13%		0%	4	7%
EXECUTIVE VICE PRES		2	5%		0%	3	33%	5	9%
ADMIN VICE PRES		12	38%	2	25%	1	11%	15	26%
ACADEMIC VICE PRES		3	8%	1	13%		0%	4	7%
BUSINESS VICE PRES		11	28%		0%	3	33%	14	25%
OTHER OFFICER		9	23%	4	58%	2	22%	15	26%
TOTAL REPORTED		40	100%	8	100%	9	100%	57	100%
--CONTROL=PUBLIC --SIZE=ALL		TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
PRESIDENT		5	4%	9	8%	11	10%	25	10%
EXECUTIVE VICE PRES		8	10%	10	9%	7	11%	25	10%
ADMIN VICE PRES		22	26%	29	25%	16	24%	67	26%
ACADEMIC VICE PRES		7	8%	10	9%	5	8%	22	8%
BUSINESS VICE PRES		16	19%	24	20%	10	16%	49	19%
OTHER OFFICER		24	31%	34	30%	12	20%	72	28%
TOTAL REPORTED		84	100%	115	100%	61	100%	260	100%

Table 5 (continued)

ADMINISTRATIVE INFORMATION SYSTEMS REPORTING
Private Institutions

---CONTROL=PRIVATE ---SIZE=SMALL	TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
PRESIDENT			5	12%			5	12%
EXECUTIVE VICE PRES			6	15%			6	15%
ADMIN VICE PRES			3	7%			3	7%
ACADEMIC VICE PRES			5	12%			5	12%
BUSINESS VICE PRES			13	32%			13	32%
OTHER OFFICER			9	22%			9	22%
TOTAL REPORTED			41	100%			41	100%
---CONTROL=PRIVATE ---SIZE=MEDIUM	TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
PRESIDENT		0%	2	11%			2	6%
EXECUTIVE VICE PRES	1	7%	3	16%			4	11%
ADMIN VICE PRES	4	27%	3	16%			8	23%
ACADEMIC VICE PRES	2	13%	2	11%			4	11%
BUSINESS VICE PRES	6	40%	3	16%			9	26%
OTHER OFFICER	2	13%	6	32%			8	23%
TOTAL REPORTED	15	100%	19	100%	1		35	100%
---CONTROL=PRIVATE ---SIZE=M-LARGE	TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
PRESIDENT		0%						0%
EXECUTIVE VICE PRES	3	38%					3	27%
ADMIN VICE PRES	1	13%					3	27%
ACADEMIC VICE PRES		0%					1	9%
BUSINESS VICE PRES	2	25%					2	18%
OTHER OFFICER	2	25%					2	18%
TOTAL REPORTED	8	100%	3				11	100%
---CONTROL=PRIVATE ---SIZE=LARGE	TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
PRESIDENT								
EXECUTIVE VICE PRES								
ADMIN VICE PRES								
ACADEMIC VICE PRES								
BUSINESS VICE PRES								
OTHER OFFICER								
TOTAL REPORTED	2		1				3	
---CONTROL=PRIVATE ---SIZE=ALL	TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
PRESIDENT		0%	8	13%			8	9%
EXECUTIVE VICE PRES	4	16%	9	14%			13	14%
ADMIN VICE PRES	6	24%	8	13%			15	17%
ACADEMIC VICE PRES	2	8%	8	13%			10	11%
BUSINESS VICE PRES	8	32%	16	25%			24	27%
OTHER OFFICER	5	20%	15	23%			20	22%
TOTAL REPORTED	25	100%	64	100%	1		90	100%

Table 6

ADMINISTRATIVE INFORMATION SYSTEMS REPORTING

All Separate Administrative Installations

CONTROL=ALL SIZE=SMALL	TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
PRESIDENT			2	11%			2	10%
EXECUTIVE VICE PRES			1	4%			2	10%
ADMIN VICE PRES			2	11%			3	15%
ACADEMIC VICE PRES			1	6%			1	5%
BUSINESS VICE PRES			5	26%			5	25%
OTHER OFFICER			7	39%			7	35%
TOTAL REPORTED	1		10	100%	1		20	100%

CONTROL=ALL SIZE=MEDIUM	TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
PRESIDENT		0%	2	11%			2	6%
EXECUTIVE VICE PRES	3	21%	2	11%			5	14%
ADMIN VICE PRES	5	36%	3	17%			11	31%
ACADEMIC VICE PRES		0%	2	11%			2	6%
BUSINESS VICE PRES	4	29%	2	11%			6	17%
OTHER OFFICER	2	14%	7	39%			10	28%
TOTAL REPORTED	14	100%	10	100%	4		34	100%

CONTROL=ALL SIZE=M-LARGE	TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
PRESIDENT	1	8%	1	6%			2	7%
EXECUTIVE VICE PRES		0%		0%				0%
ADMIN VICE PRES	2	17%	9	56%			11	38%
ACADEMIC VICE PRES	1	8%	1	6%			2	7%
BUSINESS VICE PRES	2	17%	2	13%			5	17%
OTHER OFFICER	4	50%	7	19%			9	31%
TOTAL REPORTED	12	100%	16	100%	1		29	100%

CONTROL=ALL SIZE=LARGE	TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
PRESIDENT	1	6%	1	20%			2	9%
EXECUTIVE VICE PRES	1	6%		0%			1	4%
ADMIN VICE PRES	5	28%	2	40%			7	30%
ACADEMIC VICE PRES	2	11%		0%			2	9%
BUSINESS VICE PRES	5	28%		0%			5	22%
OTHER OFFICER	4	22%	2	40%			6	24%
TOTAL REPORTED	10	100%	5	100%			23	100%

CONTROL=ALL SIZE=ALL	TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
PRESIDENT	2	4%	6	11%		0%	8	7%
EXECUTIVE VICE PRES	5	11%	3	5%		0%	8	7%
ADMIN VICE PRES	12	27%	16	28%	4	67%	32	30%
ACADEMIC VICE PRES	3	7%	4	7%		0%	7	6%
BUSINESS VICE PRES	11	24%	9	16%	1	17%	21	19%
OTHER OFFICER	12	27%	19	33%	1	17%	32	30%
TOTAL REPORTED	45	100%	57	100%	6	100%	108	100%

Table 6 (continued)

ADMINISTRATIVE INFORMATION SYSTEMS REPORTING
Separate Administrative Installations
Public Institutions

---CONTROL=PUBLIC ---SIZE=SMALL	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
PRESIDENT								8%
EXECUTIVE VICE PRES							1	17%
ADMIN VICE PRES							3	50%
ACADEMIC VICE PRES							1	17%
BUSINESS VICE PRES								0%
OTHER OFFICER							1	17%
TOTAL REPORTED	1		4		1		6	100%

---CONTROL=PUBLIC ---SIZE=MEDIUM	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
PRESIDENT		0%	2	15%			2	0%
EXECUTIVE VICE PRES	2	25%	1	0%			3	12%
ADMIN VICE PRES	2	25%	2	13%			7	20%
ACADEMIC VICE PRES		0%	1	0%			1	4%
BUSINESS VICE PRES	2	25%	2	13%			4	16%
OTHER OFFICER	2	25%	5	30%			0	32%
TOTAL REPORTED	8	100%	13	100%	4		25	100%

---CONTROL=PUBLIC ---SIZE=M-LARGE	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
PRESIDENT	1	11%	1	7%			2	0%
EXECUTIVE VICE PRES		0%		0%				0%
ADMIN VICE PRES	1	11%	0	53%			9	36%
ACADEMIC VICE PRES	1	11%	1	7%			2	0%
BUSINESS VICE PRES	1	11%	2	13%			4	16%
OTHER OFFICER	5	56%	3	20%			0	32%
TOTAL REPORTED	9	100%	15	100%	1		25	100%

---CONTROL=PUBLIC ---SIZE=LARGE	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
PRESIDENT	1	6%	1	20%			2	10%
EXECUTIVE VICE PRES	1	6%		0%			1	5%
ADMIN VICE PRES	4	25%	2	40%			6	29%
ACADEMIC VICE PRES	2	13%		0%			2	10%
BUSINESS VICE PRES	5	31%		0%			5	24%
OTHER OFFICER	3	19%	2	40%			5	24%
TOTAL REPORTED	16	100%	5	100%			21	100%

---CONTROL=PUBLIC ---SIZE=ALL	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
PRESIDENT	2	6%	4	11%		0%	6	0%
EXECUTIVE VICE PRES	4	12%	1	3%		0%	5	6%
ADMIN VICE PRES	7	21%	14	30%	4	67%	25	32%
ACADEMIC VICE PRES	3	9%	3	0%		0%	6	0%
BUSINESS VICE PRES	0	24%	4	11%	1	17%	13	17%
OTHER OFFICER	10	29%	11	30%	1	17%	22	29%
TOTAL REPORTED	34	100%	37	100%	6	100%	77	100%

Table 6 (continued)
ADMINISTRATIVE INFORMATION SYSTEMS REPORTING
Separate Administrative Installations
Private Institutions

---CONTROL=PRIVATE ---SIZE=SMALL	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
PRESIDENT			2	14%			2	14%
EXECUTIVE VICE PRES			1	7%			1	7%
ADMIN VICE PRES				0%				0%
ACADEMIC VICE PRES				0%				0%
BUSINESS VICE PRES			5	36%			5	36%
OTHER OFFICER			6	43%			6	43%
TOTAL REPORTED			14	100%			14	100%

---CONTROL=PRIVATE ---SIZE=MEDIUM	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
PRESIDENT		0%		0%				0%
EXECUTIVE VICE PRES	1	17%	1	20%			2	18%
ADMIN VICE PRES	3	50%	1	20%			4	36%
ACADEMIC VICE PRES		0%	1	20%			1	9%
BUSINESS VICE PRES	2	33%		0%			2	18%
OTHER OFFICER		0%	2	40%			2	18%
TOTAL REPORTED	6	100%	5	100%			11	100%

---CONTROL=PRIVATE ---SIZE=M-LARGE	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
PRESIDENT								
EXECUTIVE VICE PRES								
ADMIN VICE PRES								
ACADEMIC VICE PRES								
BUSINESS VICE PRES								
OTHER OFFICER								
TOTAL REPORTED	3		1				4	

---CONTROL=PRIVATE ---SIZE=LARGE	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
PRESIDENT								
EXECUTIVE VICE PRES								
ADMIN VICE PRES								
ACADEMIC VICE PRES								
BUSINESS VICE PRES								
OTHER OFFICER								
TOTAL REPORTED	2						2	

---CONTROL=PRIVATE ---SIZE=ALL	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
PRESIDENT		0%	2	10%			2	6%
EXECUTIVE VICE PRES	1	9%	2	10%			3	10%
ADMIN VICE PRES	5	45%	2	10%			7	23%
ACADEMIC VICE PRES		0%	1	5%			1	3%
BUSINESS VICE PRES	3	27%	5	25%			8	26%
OTHER OFFICER	2	18%	8	40%			10	32%
TOTAL REPORTED	11	100%	20	100%			31	100%

Table 7

ADMINISTRATIVE INFORMATION SYSTEMS REPORTING

All Combined Academic/Administrative Installations

--CONTROL=ALL --SIZE=SMALL		TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
PRESIDENT		4	12X	2	20X	6	14X		
EXECUTIVE VICE PRES		6	18X		0X	6	14X		
ADMIN VICE PRES		5	15X	3	30X	8	19X		
ACADEMIC VICE PRES		5	15X	3	30X	8	19X		
BUSINESS VICE PRES		9	27X	1	10X	10	23X		
OTHER OFFICER		4	12X	1	10X	5	12X		
TOTAL REPORTED				30	100X	10	100X	43	100X

--CONTROL=ALL --SIZE=MEDIUM		TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
PRESIDENT		1	5X	5	9X	8	27X	14	13X
EXECUTIVE VICE PRES		1	5X	5	9X	3	10X	9	8X
ADMIN VICE PRES		3	16X	10	18X	8	27X	21	20X
ACADEMIC VICE PRES		3	16X	5	9X	1	3X	9	8X
BUSINESS VICE PRES		5	26X	15	26X	5	17X	25	24X
OTHER OFFICER		6	32X	17	30X	5	17X	28	26X
TOTAL REPORTED		19	100X	57	100X	30	100X	104	100X

--CONTROL=ALL --SIZE=M-LARGE		TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
PRESIDENT			0X	1	4X	1	14X	2	4X
EXECUTIVE VICE PRES		5	24X	5	10X	1	14X	11	20X
ADMIN VICE PRES		5	24X	6	21X	1	14X	12	21X
ACADEMIC VICE PRES		2	10X	3	11X	1	14X	6	11X
BUSINESS VICE PRES		2	10X	6	21X		0X	8	14X
OTHER OFFICER		7	33X	7	25X	3	43X	17	30X
TOTAL REPORTED		21	100X	28	100X	7	100X	56	100X

--CONTROL=ALL --SIZE=LARGE		TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
PRESIDENT		2	8X				0X	3	8X
EXECUTIVE VICE PRES		1	4X			3	33X	4	11X
ADMIN VICE PRES		8	33X			1	11X	9	24X
ACADEMIC VICE PRES		1	4X				0X	2	5X
BUSINESS VICE PRES		6	25X			3	33X	9	24X
OTHER OFFICER		6	25X			2	22X	18	27X
TOTAL REPORTED		24	100X	4		9	100X	37	100X

--CONTROL=ALL --SIZE=ALL		TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
PRESIDENT		3	5X	11	9X	11	20X	25	19X
EXECUTIVE VICE PRES		7	11X	16	13X	7	13X	30	22X
ADMIN VICE PRES		16	25X	21	17X	13	23X	50	21X
ACADEMIC VICE PRES		6	9X	14	11X	5	9X	25	10X
BUSINESS VICE PRES		13	20X	38	25X	9	16X	52	21X
OTHER OFFICER		19	30X	38	25X	11	20X	68	25X
TOTAL REPORTED		64	100X	122	100X	56	100X	242	100X

Table 7 (continued)
ADMINISTRATIVE INFORMATION SYSTEMS REPORTING
Combined Academic/Administrative Installations
Public Institutions

---CONTROL=PUBLIC ---SIZE=SMALL	TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
PRESIDENT			1	17%	2	20%	3	19%
EXECUTIVE VICE PRES			1	17%		0%	1	6%
ADMIN VICE PRES			2	33%	3	30%	5	31%
ACADEMIC VICE PRES				0%	3	30%	3	19%
BUSINESS VICE PRES			1	17%	1	10%	2	13%
OTHER OFFICER			1	17%	1	10%	2	13%
TOTAL REPORTED			6	100%	10	100%	16	100%

---CONTROL=PUBLIC ---SIZE=MEDIUM	TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
PRESIDENT	1	10%	3	7%	8	28%	12	15%
EXECUTIVE VICE PRES	1	10%	3	7%	3	10%	7	9%
ADMIN VICE PRES	2	20%	8	19%	7	24%	17	21%
ACADEMIC VICE PRES	1	10%	4	9%	1	3%	6	7%
BUSINESS VICE PRES	1	10%	12	28%	5	17%	18	22%
OTHER OFFICER	4	40%	13	30%	5	17%	22	27%
TOTAL REPORTED	10	100%	43	100%	29	100%	82	100%

---CONTROL=PUBLIC ---SIZE=M-LARGE	TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
PRESIDENT		8%	1	4%	1	14%	2	4%
EXECUTIVE VICE PRES	2	13%	5	19%	1	14%	8	16%
ADMIN VICE PRES	5	31%	5	19%	1	14%	11	22%
ACADEMIC VICE PRES	2	13%	2	8%	1	14%	5	10%
BUSINESS VICE PRES	1	6%	6	23%		0%	7	14%
OTHER OFFICER	6	38%	7	27%	3	43%	16	33%
TOTAL REPORTED	16	100%	26	100%	7	100%	49	100%

---CONTROL=PUBLIC ---SIZE=LARGE	TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
PRESIDENT	2	8%				0%	2	6%
EXECUTIVE VICE PRES	1	4%			3	33%	4	11%
ADMIN VICE PRES	8	33%			1	11%	9	25%
ACADEMIC VICE PRES	1	4%				0%	2	6%
BUSINESS VICE PRES	6	25%			3	33%	9	25%
OTHER OFFICER	6	25%			2	22%	10	28%
TOTAL REPORTED	24	100%	3		9	100%	36	100%

---CONTROL=PUBLIC ---SIZE=ALL	TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
PRESIDENT	3	6%	5	6%	11	20%	19	10%
EXECUTIVE VICE PRES	4	8%	9	12%	7	13%	20	11%
ADMIN VICE PRES	15	30%	15	19%	12	22%	42	23%
ACADEMIC VICE PRES	4	8%	7	9%	5	9%	16	9%
BUSINESS VICE PRES	8	16%	19	24%	9	16%	36	20%
OTHER OFFICER	16	32%	23	29%	11	20%	50	27%
TOTAL REPORTED	50	100%	70	100%	55	100%	181	100%

Table 7 (continued)

ADMINISTRATIVE INFORMATION SYSTEMS REPORTING
Combined Academic/Administrative Installations
Private Institutions

--CONTROL=PRIVATE ---SIZE=SMALL	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
PRESIDENT		3 11%		3 11%
EXECUTIVE VICE PRES		5 19%		5 19%
ADMIN VICE PRES		3 11%		3 11%
ACADEMIC VICE PRES		5 19%		5 19%
BUSINESS VICE PRES		8 30%		8 30%
OTHER OFFICER		3 11%		3 11%
TOTAL REPORTED		27 100%		27 100%

--CONTROL=PRIVATE ---SIZE=MEDIUM	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
PRESIDENT		2 14%		2 8%
EXECUTIVE VICE PRES		2 14%		2 8%
ADMIN VICE PRES	1 11%	2 14%		4 17%
ACADEMIC VICE PRES	2 22%	1 7%		3 13%
BUSINESS VICE PRES	4 44%	3 21%		7 29%
OTHER OFFICER	2 22%	4 29%		6 25%
TOTAL REPORTED	9 100%	18 100%	1	24 100%

--CONTROL=PRIVATE ---SIZE=M-LARGE	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
PRESIDENT				0%
EXECUTIVE VICE PRES	3 60%			3 43%
ADMIN VICE PRES	0%			1 14%
ACADEMIC VICE PRES	0%			1 14%
BUSINESS VICE PRES	1 20%			1 14%
OTHER OFFICER	1 20%			1 14%
TOTAL REPORTED	5 100%	2		7 100%

--CONTROL=PRIVATE ---SIZE=LARGE	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
PRESIDENT				
EXECUTIVE VICE PRES				
ADMIN VICE PRES				
ACADEMIC VICE PRES				
BUSINESS VICE PRES				
OTHER OFFICER				
TOTAL REPORTED		1		1

--CONTROL=PRIVATE ---SIZE=ALL	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
PRESIDENT		6 14%		6 10%
EXECUTIVE VICE PRES	3 21%	7 16%		10 17%
ADMIN VICE PRES	1 7%	6 14%		8 14%
ACADEMIC VICE PRES	2 14%	7 16%		9 15%
BUSINESS VICE PRES	5 36%	11 25%		16 27%
OTHER OFFICER	3 21%	7 16%		10 17%
TOTAL REPORTED	19 100%	44 100%	1	59 100%

Chapter 3 Staffing

The Administrative Information Systems Staffing sub-section of the 1980 Profile requested information about the number of full-time equivalent (FTE) staff in the five major functional areas of management, analysis/programming, systems programming, operations, and clerical in the administrative information systems organization at each institution. From these data it is possible to determine the distribution of staff by category and the average size of the AIS staff for different institutional groups.

While the Profile did not provide descriptions for each of the five staff categories, they are generally understood to be the following:

The management staff includes the general administrative officers of the AIS organization.

The analysts/programmers are the staff assigned to the applications development function.

The systems programmers work primarily with support software such as the operating system, languages, utility programs, and other general systems.

The operations staff includes the computer operators and other staff assigned to scheduling and processing of jobs through the computer installation.

The clerical staff provides the traditional secretarial support function for the AIS organization.

Staff Distribution by Category

The distribution of administrative information systems staff by category is surprisingly consistent for all institutional groups. The management category averages 11% of the staff with a range of 9% to 15%; larger institutions are at the lower figure and smaller institutions are at the higher level. The applications development staff (generally measured by the number of analyst/programmers) accounts for 28% to 40% of the staff with an average of 38%. As might be expected, small institutions are at the low end of this distribution and large institutions are at the highest level. The systems programming category averages 7% in all of the institutional groups with little variance between groups. The percentage of effort reported for the operations and the clerical categories are also consistent, with averages of 34% and 10% respectively for all institutional groups.

Figure 14 shows the staff distribution by category for all responding institutions in pie-chart form and Table 8 summarizes the same information for the major institutional groups.

The summaries in Table 8 show that public institutions report more applications development staff (analysts/programmers) than private institutions, while the latter report a slightly higher percentage of management staff. This is probably due to the large number of small private institutions reporting, since in small installations managers generally perform many of the systems development tasks, so the effective percentage of effort by staff category is likely to be the same in institutions of all sizes.

When compared to similar information from The Fourth Inventory of Computers in Higher Education: An Interpretive Report,⁴ the distribution of staff by category shows a significant drop in the clerical category (from 15%

⁴John W. Hamblen and Carolyn P. Landis, eds., The Fourth Inventory of Computers in Higher Education: An Interpretive Report (Boulder, Co: Westview Press, 1980), p. 33.

to 10%) and a similar drop in the percentage of management staff from 14% to 10% in public institutions and from 18% to 13% in private institutions. The operations staff category has remained at 34% since 1976. The 1976 information did not differentiate between systems programmers and analysts/programmers, so the 34-37% reported in 1976 is comparable to the 45% reported in 1980 for systems programmers (7%) and analysts/programmers (38%). Even with this slight difference in staff categories, it is clear that the percentage of analysts/programmers has increased significantly since 1976. This increase is consistent with information on the increased number of administrative applications described in Chapter 6: Software.

The 1980 Profile data on staff distribution are interesting for comparative purposes; however, it will be even more interesting to observe trends in this area when data from future Profiles are available.

Average Staff Size

When comparing average staff size, only the numbers for institutions of similar size are really comparable, so Figures 15 through 19 show the average staff size in terms of FTE for all other institutional groups in each of the four size groups.

In general, public institutions and universities report an average staff size significantly larger than the other institutional groups. Staff size in all public institutions averages 26 FTE employees compared to 14 in all private institutions. An average staff size of 41 FTE in all universities compares to 15 and 14 in four-year and two-year institutions. Also, institutions with separate administrative installations report an average staff size of 31 FTE compared to 20 for institutions with combined academic/administrative computing installations.

In large, medium, and small institutions, average staff size by institutional group generally follows the same pattern as for all responding institutions. This observation does not hold for the medium-large institutions, since the information in this group is dominated by several unique private institutions like Stanford and Notre Dame Universities that have computing installations with national reputations. This select group of institutions causes the data to show a higher average staff size for private than public institutions in this size group. The data for separate versus combined installations are also affected by the inclusion of these institutions. As the number of institutions reporting data in the CAUSE National Database increases, the effect of a few unique institutions on the data for any one group should be minimized in the future.

Average staff size in all large institutions is 59 FTE, and ranges from a high of 75 in separate administrative computing installations to a low of 40 in four-year institutions. All medium-large institutions report an average staff size of 23 FTE, with the private institutions high at 37 and two-year institutions low at 15. Average staff size in medium-sized institutions ranges from a low of 8 FTE in two-year institutions to a high of 20 in universities, with an average of 14 FTE for all medium-sized institutions. All small institutions report an average staff size of 8 FTE, with only small universities significantly higher at 17 FTE.

Figures 15 through 19 provide a graphic description of the average staff size for the major institutional groups within each of the institutional size categories. Tables 9, 10 and 11 provide detailed distributions of staffing data for all institutional groups.

Because of the difficulty of breaking out the staff assigned to support the administrative information systems in combined administrative/academic installations for the 1980 Profile, the 1981 Profile will request this information in a format that should provide more accurate data and more complete information for combined installations.

Figure 14
AIS STAFF DISTRIBUTION BY CATEGORY
All Responding Institutions

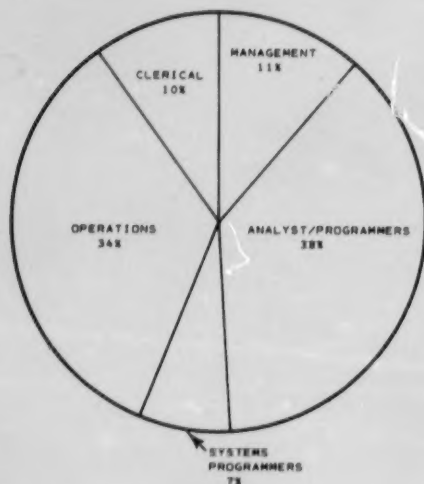


Table 8
AIS STAFF DISTRIBUTION BY CATEGORY
By Major Institutional Groups

	ALL	PUB	PRV	UNV	4YR	2YR	LRG	M/L	HED	7HL	SEP	CND
MANAGEMENT	11%	10%	13%	10%	13%	13%	9%	12%	13%	15%	9%	12%
ANALYST/PROC	38%	39%	32%	40%	36%	32%	40%	39%	35%	28%	39%	37%
SYSTEMS/PROC	7%	7%	7%	7%	5%	8%	8%	6%	6%	5%	7%	7%
OPERATIONS	34%	34%	34%	33%	34%	36%	34%	32%	32%	39%	33%	51%
CLERICAL	10%	10%	13%	10%	11%	11%	9%	11%	13%	12%	11%	10%
INSTNS IN GRP	329	246	83	103	166	40	59	80	132	58	103	224

AVERAGE STAFF SIZE CHARTS

Figure 15

All Responding Institutions

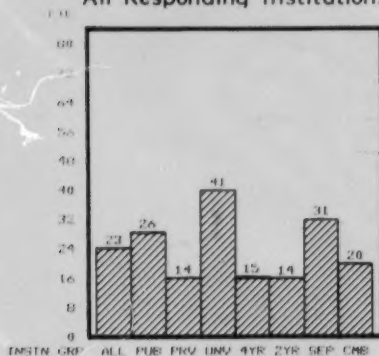
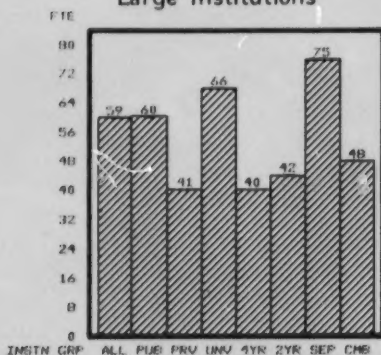
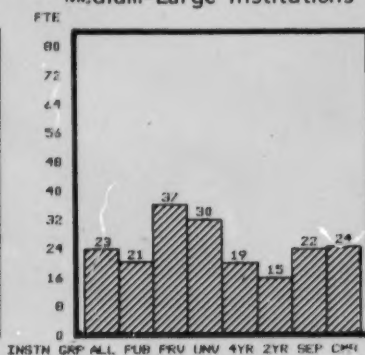
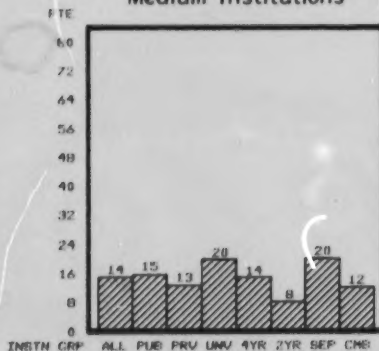
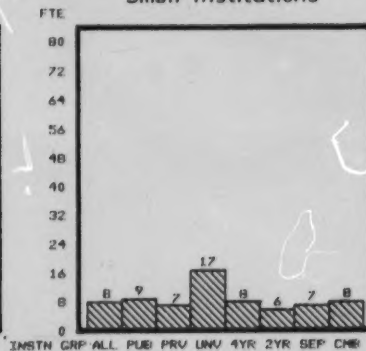
Figure 16
Large InstitutionsFigure 17
Medium-Large InstitutionsFigure 18
Medium InstitutionsFigure 19
Small Institutions

Table 9
AVERAGE AIS STAFF & DISTRIBUTION BY CATEGORY
All Responding Institutions

---CONTROL=ALL -----SIZE=SMALL	TYPE=UNIV AVG FTE PCT	TYPE=4-YR AVG FTE PCT	TYPE=2-YR AVG FTE PCT	TYPE=ALL AVG FTE PCT
MANAGEMENT		1.1 14%	1.0 10%	1.1 15%
ANALYST/PROGRAMMERS		2.1 27%	1.8 32%	2.1 28%
SYSTEMS PROGRAMMERS		.5 6%	.2 4%	.4 5%
OPERATIONS		3.1 40%	2.0 36%	2.9 39%
CLERICAL		1.0 13%	.5 9%	.9 12%
TOTAL STAFF (AVG)		7.7 100%	5.6 100%	7.5 100%
INSTNS IN GROUP	1	4	11	58
---CONTROL=ALL -----SIZE=MEDIUM	TYPE=UNIV AVG FTE PCT	TYPE=4-YR AVG FTE PCT	TYPE=2-YR AVG FTE PCT	TYPE=ALL AVG FTE PCT
MANAGEMENT	2.5 13%	1.9 13%	1.5 19%	1.9 13%
ANALYST/PROGRAMMERS	7.4 37%	5.1 35%	2.5 31%	5.0 35%
SYSTEMS PROGRAMMERS	1.7 9%	.7 5%	.4 5%	.8 6%
OPERATIONS	6.0 30%	5.1 35%	2.3 29%	4.6 32%
CLERICAL	2.4 12%	1.6 11%	1.4 18%	1.8 13%
TOTAL STAFF (AVG)	20.0 100%	14.4 100%	8.0 100%	14.2 100%
INSTNS IN GROUP	31	69	32	132
---CONTROL=ALL -----SIZE=M-LARGE	TYPE=UNIV AVG FTE PCT	TYPE=4-YR AVG FTE PCT	TYPE=2-YR AVG FTE PCT	TYPE=ALL AVG FTE PCT
MANAGEMENT	3.3 11%	2.4 12%	2.0 13%	2.7 12%
ANALYST/PROGRAMMERS	12.5 42%	7.3 38%	3.8 25%	8.9 39%
SYSTEMS PROGRAMMERS	1.6 5%	1.1 6%	1.2 8%	1.3 6%
OPERATIONS	9.6 32%	6.1 31%	6.2 41%	7.4 32%
CLERICAL	3.1 10%	2.4 12%	1.8 12%	2.6 11%
TOTAL STAFF (AVG)	30.1 100%	19.4 100%	15.0 100%	23.0 100%
INSTNS IN GROUP	30	42	8	80
---CONTROL=ALL -----SIZE=LARGE	TYPE=UNIV AVG FTE PCT	TYPE=4-YR AVG FTE PCT	TYPE=2-YR AVG FTE PCT	TYPE=ALL AVG FTE PCT
MANAGEMENT	5.9 9%	3.3 8%	3.1 7%	5.1 9%
ANALYST/PROGRAMMERS	26.6 40%	18.1 45%	14.4 34%	23.4 40%
SYSTEMS PROGRAMMERS	5.3 8%	2.7 7%	4.8 11%	4.8 8%
OPERATIONS	22.4 34%	13.6 34%	16.8 40%	20.2 34%
CLERICAL	6.2 9%	2.4 6%	2.9 7%	5.1 9%
TOTAL STAFF (AVG)	66.3 100%	40.1 100%	42.0 100%	58.6 100%
INSTNS IN GROUP	41	9	9	59
---CONTROL=ALL -----SIZE=ALL	TYPE=UNIV AVG FTE PCT	TYPE=4-YR AVG FTE PCT	TYPE=2-YR AVG FTE PCT	TYPE=ALL AVG FTE PCT
MANAGEMENT	4.1 10%	1.9 13%	1.7 13%	2.5 11%
ANALYST/PROGRAMMERS	16.5 40%	5.5 36%	4.3 32%	8.8 36%
SYSTEMS PROGRAMMERS	3.1 7%	.8 5%	1.1 8%	1.6 7%
OPERATIONS	13.6 33%	5.2 34%	4.9 36%	7.8 34%
CLERICAL	4.1 10%	1.7 11%	1.5 11%	2.4 10%
TOTAL STAFF (AVG)	41.4 100%	15.2 100%	13.6 100%	23.1 100%
INSTNS IN GROUP	103	166	60	329

Table 9 (continued)

AVERAGE AIS STAFF & DISTRIBUTION BY CATEGORY
Public Institutions

--CONTROL=PUBLIC ----SIZE=SMALL	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	AVG FTE	PCT	AVG FTE	PCT	AVG FTE	PCT	AVG FTE	PCT
MANAGEMENT			1.0	8%	1.0	18%	1.0	11%
ANALYST/PROGRAMMERS			3.1	26%	1.6	32%	2.7	31%
SYSTEMS PROGRAMMERS			1.1	9%	.2	4%	.6	7%
OPERATIONS			5.4	46%	2.0	36%	3.5	40%
CLERICAL			1.1	9%	.5	9%	.9	10%
TOTAL STAFF (AVG)			11.0	100%	5.6	100%	8.8	100%
INSTNS IN GROUP	1		9		11		21	
--CONTROL=PUBLIC ----SIZE=MEDIUM	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	AVG FTE	PCT	AVG FTE	PCT	AVG FTE	PCT	AVG FTE	PCT
MANAGEMENT	3.2	12%	1.9	13%	1.4	16%	2.0	14%
ANALYST/PROGRAMMERS	10.0	39%	5.3	36%	2.5	31%	5.2	36%
SYSTEMS PROGRAMMERS	2.5	10%	.6	4%	.4	5%	.9	6%
OPERATIONS	7.3	28%	5.3	36%	2.3	29%	4.7	32%
CLERICAL	3.0	12%	1.7	11%	1.3	16%	1.8	12%
TOTAL STAFF (AVG)	25.9	100%	14.8	100%	8.0	100%	14.5	100%
INSTNS IN GROUP	16		52		31		99	
--CONTROL=PUBLIC ----SIZE=M-LARGE	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	AVG FTE	PCT	AVG FTE	PCT	AVG FTE	PCT	AVG FTE	PCT
MANAGEMENT	3.0	11%	2.3	12%	2.0	13%	2.5	12%
ANALYST/PROGRAMMERS	11.7	44%	7.3	39%	3.8	25%	8.3	40%
SYSTEMS PROGRAMMERS	1.2	4%	1.1	6%	1.2	8%	1.1	5%
OPERATIONS	8.6	32%	5.8	31%	6.2	41%	6.8	33%
CLERICAL	2.2	8%	2.3	12%	1.8	12%	2.2	11%
TOTAL STAFF (AVG)	26.7	100%	18.8	100%	15.0	100%	20.9	100%
INSTNS IN GROUP	23		39		8		70	
--CONTROL=PUBLIC ----SIZE=LARGE	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	AVG FTE	PCT	AVG FTE	PCT	AVG FTE	PCT	AVG FTE	PCT
MANAGEMENT	6.8	9%	3.3	8%	3.1	7%	5.1	9%
ANALYST/PROGRAMMERS	27.1	41%	19.8	46%	14.4	34%	24.0	40%
SYSTEMS PROGRAMMERS	5.1	8%	3.1	7%	4.8	11%	4.8	8%
OPERATIONS	22.5	34%	14.6	34%	16.8	40%	20.4	34%
CLERICAL	6.3	9%	2.6	6%	2.9	7%	5.2	9%
TOTAL STAFF (AVG)	66.9	100%	43.3	100%	42.0	100%	59.5	100%
INSTNS IN GROUP	39		8		9		56	
--CONTROL=PUBLIC ----SIZE=ALL	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	AVG FTE	PCT	AVG FTE	PCT	AVG FTE	PCT	AVG FTE	PCT
MANAGEMENT	4.5	10%	2.0	11%	1.7	12%	2.7	10%
ANALYST/PROGRAMMERS	18.9	41%	6.9	38%	4.4	32%	10.1	39%
SYSTEMS PROGRAMMERS	3.4	7%	1.8	6%	1.1	8%	1.8	7%
OPERATIONS	15.1	33%	6.2	34%	5.0	36%	8.8	34%
CLERICAL	4.4	10%	1.9	10%	1.5	11%	2.6	10%
TOTAL STAFF (AVG)	46.3	100%	18.1	100%	13.7	100%	26.1	100%
INSTNS IN GROUP	79		108		59		246	

Table 9 (continued)

AVERAGE AIS STAFF & DISTRIBUTION BY CATEGORY
Private Institutions

--CONTROL=PRIVATE ----SIZE=SMALL		TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
		AVG FTE PCT	AVG FTE PCT	AVG FTE PCT	AVG FTE PCT
MANAGEMENT			1.1 16%		1.1 16%
ANALYST/PROGRAMMERS			1.8 27%		1.8 27%
SYSTEMS PROGRAMMERS			.3 4%		.3 4%
OPERATIONS			2.5 37%		2.5 37%
CLERICAL			1.0 15%		1.0 15%
TOTAL STAFF (AVG)			6.7 100%		6.7 100%
INSTNS IN GROUP			37		37
--CONTROL=PRIVATE ----SIZE=MEDIUM		TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
		AVG FTE PCT	AVG FTE PCT	AVG FTE PCT	AVG FTE PCT
MANAGEMENT		1.7 12%	2.1 16%		1.9 14%
ANALYST/PROGRAMMERS		4.6 34%	4.6 35%		4.5 34%
SYSTEMS PROGRAMMERS		.8 6%	.8 6%		.8 6%
OPERATIONS		4.7 34%	4.4 33%		4.5 34%
CLERICAL		1.0 13%	1.5 11%		1.7 13%
TOTAL STAFF (AVG)		13.7 100%	13.3 100%		13.4 100%
INSTNS IN GROUP		15	17	1	33
--CONTROL=PRIVATE ----SIZE=M-LARGE		TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
		AVG FTE PCT	AVG FTE PCT	AVG FTE PCT	AVG FTE PCT
MANAGEMENT		4.3 10%			4.3 12%
ANALYST/PROGRAMMERS		15.1 36%			13.1 35%
SYSTEMS PROGRAMMERS		2.9 7%			2.5 7%
OPERATIONS		13.8 31%			12.1 33%
CLERICAL		6.1 15%			5.4 15%
TOTAL STAFF (AVG)		41.4 100%			37.2 100%
INSTNS IN GROUP		7	3		10
--CONTROL=PRIVATE ----SIZE=LARGE		TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
		AVG FTE PCT	AVG FTE PCT	AVG FTE PCT	AVG FTE PCT
MANAGEMENT					
ANALYST/PROGRAMMERS					
SYSTEMS PROGRAMMERS					
OPERATIONS					
CLERICAL					
TOTAL STAFF (AVG)					
INSTNS IN GROUP		2	1		3
--CONTROL=PRIVATE ----SIZE=ALL		TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
		AVG FTE PCT	AVG FTE PCT	AVG FTE PCT	AVG FTE PCT
MANAGEMENT		2.7 11%	1.6 16%		1.9 13%
ANALYST/PROGRAMMERS		8.7 35%	3.8 38%		4.6 32%
SYSTEMS PROGRAMMERS		2.1 8%	.5 5%		1.0 7%
OPERATIONS		8.4 33%	3.5 35%		4.9 34%
CLERICAL		3.2 13%	1.3 13%		1.8 13%
TOTAL STAFF (AVG)		25.2 100%	9.9 100%		14.3 100%
INSTNS IN GROUP		24	58	1	83

Table 10
AVERAGE AIS STAFF & DISTRIBUTION BY CATEGORY
All Separate Administrative Installations

---CONTROL=ALL ---SIZE=SMALL	TYPE=UNIV AVG FTE PCT	TYPE=4-YR AVG FTE PCT	TYPE=2-YR AVG FTE PCT	TYPE=ALL AVG FTE PCT
MANAGEMENT		.9 13%		1.0 14%
ANALYST/PROGRAMMERS		1.0 26%		2.1 28%
SYSTEMS PROGRAMMERS		.6 9%		.6 8%
OPERATIONS		2.6 37%		2.6 35%
CLERICAL		1.1 16%		1.1 15%
TOTAL STAFF (AVG)		7.0 100%		7.4 100%
INSTNS IN GROUP	1	17	1	19
---CONTROL=ALL ---SIZE=MEDIUM	TYPE=UNIV AVG FTE PCT	TYPE=4-YR AVG FTE PCT	TYPE=2-YR AVG FTE PCT	TYPE=ALL AVG FTE PCT
MANAGEMENT	3.2 12%	2.0 10%		2.3 11%
ANALYST/PROGRAMMERS	9.2 35%	7.1 37%		7.3 36%
SYSTEMS PROGRAMMERS	2.2 8%	.8 4%		1.2 4%
OPERATIONS	9.1 34%	7.7 40%		7.6 37%
CLERICAL	2.0 11%	1.7 9%		2.0 10%
TOTAL STAFF (AVG)	26.5 100%	19.2 100%		20.4 100%
INSTNS IN GROUP	13	17	4	34
---CONTROL=ALL ---SIZE=M-LARGE	TYPE=UNIV AVG FTE PCT	TYPE=4-YR AVG FTE PCT	TYPE=2-YR AVG FTE PCT	TYPE=ALL AVG FTE PCT
MANAGEMENT	2.4 8%	2.2 12%		2.2 10%
ANALYST/PROGRAMMERS	13.5 47%	6.6 36%		9.1 41%
SYSTEMS PROGRAMMERS	1.0 3%	.9 5%		.9 4%
OPERATIONS	9.2 32%	5.5 30%		6.9 31%
CLERICAL	2.5 9%	3.3 18%		2.0 13%
TOTAL STAFF (AVG)	28.6 100%	18.5 100%		22.0 100%
INSTNS IN GROUP	11	15	1	27
---CONTROL=ALL ---SIZE=LARGE	TYPE=UNIV AVG FTE PCT	TYPE=4-YR AVG FTE PCT	TYPE=2-YR AVG FTE PCT	TYPE=ALL AVG FTE PCT
MANAGEMENT	6.0 9%	4.5 8%		6.3 8%
ANALYST/PROGRAMMERS	30.9 39%	26.2 44%		29.9 40%
SYSTEMS PROGRAMMERS	7.6 10%	3.4 6%		6.7 9%
OPERATIONS	25.0 32%	21.4 36%		24.3 32%
CLERICAL	9.1 11%	4.0 7%		8.0 11%
TOTAL STAFF (AVG)	79.3 100%	59.5 100%		75.0 100%
INSTNS IN GROUP	10	5		23
---CONTROL=ALL ---SIZE=ALL	TYPE=UNIV AVG FTE PCT	TYPE=4-YR AVG FTE PCT	TYPE=2-YR AVG FTE PCT	TYPE=ALL AVG FTE PCT
MANAGEMENT	4.5 9%	1.9 10%	9 20%	2.9 9%
ANALYST/PROGRAMMERS	19.4 40%	7.0 37%	1.5 3%	11.9 39%
SYSTEMS PROGRAMMERS	9.1 8%	1.0 5%	.6 2%	2.2 7%
OPERATIONS	15.7 32%	6.8 36%	1.7 30%	10.2 33%
CLERICAL	5.3 11%	2.2 12%	5 11%	3.4 11%
TOTAL STAFF (AVG)	40.9 100%	18.9 100%	4.5 100%	30.6 100%
INSTNS IN GROUP	43	54	6	103

Table 10 (continued)

AVERAGE AIS STAFF & DISTRIBUTION BY CATEGORY
Separate Administrative Installations
in Public Institutions

---CONTROL=PUBLIC ---SIZE=SMALL	TYPE=UNIV AUG FTE PCT		TYPE=4-YR AUG FTE PCT		TYPE=2-YR AUG FTE PCT		TYPE=ALL AUG FTE PCT	
MANAGEMENT							1.2	8%
ANALYST/PROGRAMMERS							5.2	35%
SYSTEMS PROGRAMMERS							1.3	9%
OPERATIONS							5.8	39%
CLERICAL							1.4	9%
TOTAL STAFF (AUG)							14.9	100%
INSTNS IN GROUP	1		4		1		6	
---CONTROL=PUBLIC ---SIZE=MEDIUM	TYPE=UNIV AUG FTE PCT		TYPE=4-YR AUG FTE PCT		TYPE=2-YR AUG FTE PCT		TYPE=ALL AUG FTE PCT	
MANAGEMENT	2.2	13%	2.2	10%			2.6	12%
ANALYST/PROGRAMMERS	12.4	36%	7.8	37%			8.2	37%
SYSTEMS PROGRAMMERS	3.1	11%	.7	3%			1.5	7%
OPERATIONS	11.1	32%	8.8	42%			8.3	37%
CLERICAL	2.9	8%	1.6	8%			1.8	8%
TOTAL STAFF (AUG)	34.2	100%	21.1	100%			22.4	100%
INSTNS IN GROUP	7		12		4		23	
---CONTROL=PUBLIC ---SIZE=M-LARGE	TYPE=UNIV AUG FTE PCT		TYPE=4-YR AUG FTE PCT		TYPE=2-YR AUG FTE PCT		TYPE=ALL AUG FTE PCT	
MANAGEMENT	2.4	9%	2.1	12%			2.1	10%
ANALYST/PROGRAMMERS	13.5	46%	6.7	37%			9.0	43%
SYSTEMS PROGRAMMERS	.8	3%	.9	5%			.8	4%
OPERATIONS	9.3	33%	5.1	28%			6.5	31%
CLERICAL	2.0	7%	3.3	18%			2.7	13%
TOTAL STAFF (AUG)	28.0	100%	18.1	100%			21.1	100%
INSTNS IN GROUP	9		14		1		24	
---CONTROL=PUBLIC ---SIZE=LARGE	TYPE=UNIV AUG FTE PCT		TYPE=4-YR AUG FTE PCT		TYPE=2-YR AUG FTE PCT		TYPE=ALL AUG FTE PCT	
MANAGEMENT	7.0	9%	4.5	8%			6.4	8%
ANALYST/PROGRAMMERS	32.6	40%	26.2	44%			31.1	40%
SYSTEMS PROGRAMMERS	7.3	9%	3.4	6%			6.4	8%
OPERATIONS	25.6	31%	21.4	36%			24.6	32%
CLERICAL	9.8	12%	4.0	7%			8.4	11%
TOTAL STAFF (AUG)	82.3	100%	59.5	100%			76.9	100%
INSTNS IN GROUP	16		5				21	
---CONTROL=PUBLIC ---SIZE=ALL	TYPE=UNIV AUG FTE PCT		TYPE=4-YR AUG FTE PCT		TYPE=2-YR AUG FTE PCT		TYPE=ALL AUG FTE PCT	
MANAGEMENT	5.0	9%	2.4	10%	.9	20%	3.4	9%
ANALYST/PROGRAMMERS	22.9	41%	9.7	39%	1.5	33%	14.7	40%
SYSTEMS PROGRAMMERS	4.5	8%	1.3	5%			2.6	7%
OPERATIONS	17.4	31%	9.8	46%	1.7	38%	12.2	33%
CLERICAL	5.9	11%	2.6	10%	.5	11%	3.9	11%
TOTAL STAFF (AUG)	55.7	100%	24.9	100%	4.5	100%	36.8	100%
INSTNS IN GROUP	34		35		6		74	

Table 10 (continued)
AVERAGE AIS STAFF & DISTRIBUTION BY CATEGORY
 Separate Administrative Installations
 in Private Institutions

---CONTROL=PRIVATE ---SIZE=SMALL	TYPE=UNIV AVG FTE PCT	TYPE=4-YR AVG FTE PCT	TYPE=2-YR AVG FTE PCT	TYPE=ALL AVG FTE PCT
MANAGEMENT		.9 23%		.9 23%
ANALYST/PROGRAMMERS		.7 18%		.7 18%
SYSTEMS PROGRAMMERS		.2 5%		.2 5%
OPERATIONS		1.1 28%		1.1 28%
CLERICAL		1.0 26%		1.0 26%
TOTAL STAFF (AVG)		3.9 100%		3.9 100%
INSTNS IN GROUP		13		13
---CONTROL=PRIVATE ---SIZE=MEDIUM	TYPE=UNIV AVG FTE PCT	TYPE=4-YR AVG FTE PCT	TYPE=2-YR AVG FTE PCT	TYPE=ALL AVG FTE PCT
MANAGEMENT	1.9 11%	1.4 10%		1.7 11%
ANALYST/PROGRAMMERS	5.5 31%	5.3 37%		5.4 34%
SYSTEMS PROGRAMMERS	.6 3%	.9 6%		.7 4%
OPERATIONS	6.7 38%	5.0 34%		5.9 37%
CLERICAL	2.0 12%	1.9 13%		2.4 15%
TOTAL STAFF (AVG)	17.5 100%	14.5 100%		16.1 100%
INSTNS IN GROUP	8	5		11
---CONTROL=PRIVATE ---SIZE=M-LARGE	TYPE=UNIV AVG FTE PCT	TYPE=4-YR AVG FTE PCT	TYPE=2-YR AVG FTE PCT	TYPE=ALL AVG FTE PCT
MANAGEMENT				
ANALYST/PROGRAMMERS				
SYSTEMS PROGRAMMERS				
OPERATIONS				
CLERICAL				
TOTAL STAFF (AVG)				
INSTNS IN GROUP	2	1		3
---CONTROL=PRIVATE ---SIZE=LARGE	TYPE=UNIV AVG FTE PCT	TYPE=4-YR AVG FTE PCT	TYPE=2-YR AVG FTE PCT	TYPE=ALL AVG FTE PCT
MANAGEMENT				
ANALYST/PROGRAMMERS				
SYSTEMS PROGRAMMERS				
OPERATIONS				
CLERICAL				
TOTAL STAFF (AVG)				
INSTNS IN GROUP	2			2
---CONTROL=PRIVATE ---SIZE=ALL	TYPE=UNIV AVG FTE PCT	TYPE=4-YR AVG FTE PCT	TYPE=2-YR AVG FTE PCT	TYPE=ALL AVG FTE PCT
MANAGEMENT	2.6 9%	1.2 16%		1.6 11%
ANALYST/PROGRAMMERS	9.3 33%	2.1 27%		4.6 31%
SYSTEMS PROGRAMMERS	2.7 10%	.4 5%		1.2 8%
OPERATIONS	9.9 36%	2.6 34%		5.2 35%
CLERICAL	3.4 12%	1.4 18%		2.0 14%
TOTAL STAFF (AVG)	27.0 100%	7.7 100%		14.7 100%
INSTNS IN GROUP	10	19		29

Table 11

AVERAGE AIS STAFF & DISTRIBUTION BY CATEGORY
All Combined Academic/Administrative Installations

---CONTROL=ALL	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=SMALL	AVG FTE PCT	AVG FTE PCT	AVG FTE PCT	AVG FTE PCT
MANAGEMENT	1.2 15%	1.3 10%	1.2 14%	
ANALYST/PROGRAMMERS	2.3 29%	1.9 33%	2.2 29%	
SYSTEMS PROGRAMMERS	.4 5%	.2 4%	.4 5%	
OPERATIONS	3.3 48%	2.1 37%	3.0 48%	
CLERICAL	.9 11%	.5 9%	.8 11%	
TOTAL STAFF (AVG)		8.2 100%	5.7 100%	7.5 100%
INSTNS IN GROUP		29	10	39
---CONTROL=ALL	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=MEDIUM	AVG FTE PCT	AVG FTE PCT	AVG FTE PCT	AVG FTE PCT
MANAGEMENT	1.9 12%	1.9 15%	1.6 19%	1.8 15%
ANALYST/PROGRAMMERS	6.1 48%	4.5 35%	2.5 30%	4.2 35%
SYSTEMS PROGRAMMERS	1.3 8%	.6 5%	.5 6%	.7 6%
OPERATIONS	3.8 25%	4.2 33%	2.3 27%	3.6 30%
CLERICAL	2.2 14%	1.6 12%	1.5 18%	1.7 14%
TOTAL STAFF (AVG)	15.3 100%	12.9 100%	8.4 100%	12.1 100%
INSTNS IN GROUP	18	52	28	98
---CONTROL=ALL	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=B-LARGE	AVG FTE PCT	AVG FTE PCT	AVG FTE PCT	AVG FTE PCT
MANAGEMENT	3.9 13%	2.5 13%	2.3 14%	3.0 13%
ANALYST/PROGRAMMERS	11.9 38%	7.7 39%	4.3 25%	8.0 37%
SYSTEMS PROGRAMMERS	1.9 6%	1.3 7%	1.4 8%	1.5 6%
OPERATIONS	9.8 32%	6.5 33%	6.9 41%	7.7 33%
CLERICAL	3.4 11%	1.9 10%	2.1 12%	2.5 11%
TOTAL STAFF (AVG)	31.0 100%	19.9 100%	16.9 100%	23.5 100%
INSTNS IN GROUP	19	27	7	53
---CONTROL=ALL	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=LARGE	AVG FTE PCT	AVG FTE PCT	AVG FTE PCT	AVG FTE PCT
MANAGEMENT	5.2 9%		3.1 7%	4.3 9%
ANALYST/PROGRAMMERS	23.2 41%		14.4 34%	19.3 46%
SYSTEMS PROGRAMMERS	3.5 6%		4.8 11%	3.7 8%
OPERATIONS	20.3 36%		16.8 46%	17.6 37%
CLERICAL	3.9 7%		2.9 7%	3.3 7%
TOTAL STAFF (AVG)	56.2 100%		42.0 100%	46.1 100%
INSTNS IN GROUP	23	4	9	36
---CONTROL=ALL	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=ALL	AVG FTE PCT	AVG FTE PCT	AVG FTE PCT	AVG FTE PCT
MANAGEMENT	3.8 11%	1.9 14%	1.8 12%	2.4 12%
ANALYST/PROGRAMMERS	14.5 48%	4.8 36%	4.6 32%	7.3 37%
SYSTEMS PROGRAMMERS	2.3 6%	.8 6%	1.3 9%	1.3 7%
OPERATIONS	12.8 33%	4.5 33%	5.3 36%	6.7 34%
CLERICAL	3.3 9%	1.5 11%	1.6 11%	2.0 10%
TOTAL STAFF (AVG)	35.9 100%	13.5 100%	14.6 100%	19.7 100%
INSTNS IN GROUP	68	112	54	226

Table 11 (continued)
AVERAGE AIS STAFF & DISTRIBUTION BY CATEGORY
Combined Academic/Administrative Installations
in Public Institutions

---CONTROL-PUBLIC	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=SMALL	AVG FTE PCT	AVG FTE PCT	AVG FTE PCT	AVG FTE PCT
MANAGEMENT	.9 12%	1.0 10%	1.0 10%	1.0 10%
ANALYST/PROGRAMMERS	1.4 10%	1.9 33%	1.7 27%	1.7 27%
SYSTEMS PROGRAMMERS	.6 8%	.2 4%	.3 5%	.3 5%
OPERATIONS	3.7 49%	2.1 37%	2.7 42%	2.7 42%
CLERICAL	1.0 13%	.5 9%	.7 11%	.7 11%
TOTAL STAFF (AVG)		7.6 100%	5.7 100%	6.4 100%
INSTNS IN GROUP		5	10	15
---CONTROL-PUBLIC	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=MEDIUM	AVG FTE PCT	AVG FTE PCT	AVG FTE PCT	AVG FTE PCT
MANAGEMENT	2.3 12%	1.0 14%	1.5 18%	1.7 14%
ANALYST/PROGRAMMERS	8.1 42%	4.6 36%	2.6 31%	4.3 36%
SYSTEMS PROGRAMMERS	1.6 8%	.6 5%	.5 6%	.7 6%
OPERATIONS	4.3 22%	4.2 33%	2.3 27%	3.6 30%
CLERICAL	3.2 16%	1.7 13%	1.5 18%	1.8 15%
TOTAL STAFF (AVG)	19.4 100%	12.9 100%	8.4 100%	12.1 100%
INSTNS IN GROUP	9	40	27	76
---CONTROL-PUBLIC	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=M-LARGE	AVG FTE PCT	AVG FTE PCT	AVG FTE PCT	AVG FTE PCT
MANAGEMENT	3.5 14%	2.3 12%	2.3 14%	2.7 13%
ANALYST/PROGRAMMERS	10.5 41%	7.6 40%	4.3 25%	8.0 38%
SYSTEMS PROGRAMMERS	1.4 5%	1.3 7%	1.4 8%	1.3 6%
OPERATIONS	8.2 32%	6.2 32%	6.9 41%	6.9 33%
CLERICAL	2.3 9%	1.0 9%	2.1 12%	2.0 10%
TOTAL STAFF (AVG)	25.9 100%	19.2 100%	16.9 100%	20.9 100%
INSTNS IN GROUP	14	25	7	46
---CONTROL-PUBLIC	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=LARGE	AVG FTE PCT	AVG FTE PCT	AVG FTE PCT	AVG FTE PCT
MANAGEMENT	5.2 9%		3.1 7%	4.3 9%
ANALYST/PROGRAMMERS	23.2 41%		14.4 34%	19.7 40%
SYSTEMS PROGRAMMERS	3.5 6%		4.0 11%	3.8 8%
OPERATIONS	20.3 36%		16.0 40%	17.9 36%
CLERICAL	3.9 7%		2.9 7%	3.3 7%
TOTAL STAFF (AVG)	56.2 100%		42.0 100%	49.1 100%
INSTNS IN GROUP	23	3	9	35
---CONTROL-PUBLIC	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=ALL	AVG FTE PCT	AVG FTE PCT	AVG FTE PCT	AVG FTE PCT
MANAGEMENT	4.1 10%	1.9 13%	1.0 12%	2.5 12%
ANALYST/PROGRAMMERS	14.4 41%	5.4 38%	4.7 32%	8.2 38%
SYSTEMS PROGRAMMERS	2.5 6%	.9 6%	1.3 9%	1.5 7%
OPERATIONS	13.5 34%	4.0 32%	5.4 37%	7.3 34%
CLERICAL	3.3 8%	1.4 11%	1.6 11%	2.1 10%
TOTAL STAFF (AVG)	39.0 100%	14.0 100%	14.7 100%	21.5 100%
INSTNS IN GROUP	46	73	53	172

Table 11 (continued)

AVERAGE AIS STAFF & DISTRIBUTION BY CATEGORY
Combined Academic/Administrative Installations
in Private Institutions

CONTROL-PRIVATE SIZE=SMALL	TYPE=UNIV AVG FTE PCT	TYPE=4-YR AVG FTE PCT	TYPE=2-YR AVG FTE PCT	TYPE=ALL AVG FTE PCT
MANAGEMENT		1.3 16%		1.3 16%
ANALYST/PROGRAMMERS		2.4 29%		2.4 29%
SYSTEMS PROGRAMMERS		.4 5%		.4 5%
OPERATIONS		3.2 39%		3.2 39%
CLERICAL		.9 11%		.9 11%
TOTAL STAFF (AVG)		8.3 100%		8.3 100%
INSTNS IN GROUP		24		24
CONTROL-PRIVATE SIZE=MEDIUM	TYPE=UNIV AVG FTE PCT	TYPE=4-YR AVG FTE PCT	TYPE=2-YR AVG FTE PCT	TYPE=ALL AVG FTE PCT
MANAGEMENT	1.6 14%	2.3 18%		2.1 18%
ANALYST/PROGRAMMERS	4.1 37%	4.3 33%		4.1 34%
SYSTEMS PROGRAMMERS	.9 8%	.7 5%		.8 7%
OPERATIONS	3.4 30%	4.1 32%		3.7 31%
CLERICAL	1.2 11%	1.4 11%		1.4 12%
TOTAL STAFF (AVG)	11.2 100%	12.9 100%		12.0 100%
INSTNS IN GROUP	9	12	1	22
CONTROL-PRIVATE SIZE=M-LARGE	TYPE=UNIV AVG FTE PCT	TYPE=4-YR AVG FTE PCT	TYPE=2-YR AVG FTE PCT	TYPE=ALL AVG FTE PCT
MANAGEMENT	5.0 11%			4.8 12%
ANALYST/PROGRAMMERS	15.8 35%			14.1 35%
SYSTEMS PROGRAMMERS	3.3 7%			2.8 7%
OPERATIONS	14.6 32%			13.1 32%
CLERICAL	6.5 14%			5.8 14%
TOTAL STAFF (AVG)	45.2 100%			40.7 100%
INSTNS IN GROUP	5	2		7
CONTROL-PRIVATE SIZE=LARGE	TYPE=UNIV AVG FTE PCT	TYPE=4-YR AVG FTE PCT	TYPE=2-YR AVG FTE PCT	TYPE=ALL AVG FTE PCT
MANAGEMENT				
ANALYST/PROGRAMMERS				
SYSTEMS PROGRAMMERS				
OPERATIONS				
CLERICAL				
TOTAL STAFF (AVG)		1		1
INSTNS IN GROUP				
CONTROL-PRIVATE SIZE=ALL	TYPE=UNIV AVG FTE PCT	TYPE=4-YR AVG FTE PCT	TYPE=2-YR AVG FTE PCT	TYPE=ALL AVG FTE PCT
MANAGEMENT	2.8 12%	1.8 17%		2.1 15%
ANALYST/PROGRAMMERS	8.3 35%	3.5 32%		4.7 33%
SYSTEMS PROGRAMMERS	1.8 8%	.5 5%		.9 6%
OPERATIONS	7.4 32%	3.9 36%		4.8 34%
CLERICAL	3.1 13%	1.2 11%		1.7 12%
TOTAL STAFF (AVG)	23.4 100%	10.9 100%		14.1 100%
INSTNS IN GROUP	14	39	1	54

Chapter 4 Budgets

The budget for support of administrative information systems is always a subject of great interest at every institution. The 1980 Profile requested the AIS budget in five categories (staff, hardware, software, communications, and other) to provide information for comparison; however, some major cautions must be stated. The AIS budget measures only one of the inputs to the process; what is accomplished with that budget represents output, and both input and output must be considered in any evaluation.

It is also very difficult to compare institutional AIS budgets by category for several reasons:

Many combined academic/administrative installations find it difficult to apportion staff costs for management, systems programming, and operations to administrative and academic computing support. (See Appendix B for changes to the 1981 Profile designed to alleviate this problem).

At some institutions the systems analysts, and perhaps the programmers, are located in and paid by the user departments, while in others they are a part of the AIS organization.

Some institutions lease all or part of their computer hardware, while others purchase directly from the manufacturer, and still others purchase through a state agency or consortium. Also, some institutions build a reserve for future hardware, while others receive

one-time appropriations for capital expenditures for computers.

Software may also be leased or purchased, and the costs may be written off in a single year or over a longer period of time. In addition, some software is leased or purchased by the user department, while other packages may be purchased centrally.

Communications and supplies costs may also be a part of the AIS budget or may be paid directly by the user department.

Even with the above cautions, the summaries of AIS Annual Budgets are useful, primarily because the differences average out when the budgets of large groups of similar institutions are aggregated. Again, the number of institutions in the group being examined should be considered when making comparisons.

The average AIS budget was examined by the major institutional groups within each of the size categories, as a percent of the total institutional budget, and by the five functional categories within AIS.

Average AIS Annual Budgets

The annual AIS budget was reported by 288 of the 350 responding institutions and the annual institutional operating budget was reported or acquired from government files for 282 institutions.⁵ While a few combined academic/administrative installations had difficulty with the budget questions on the 1980 Profile, in general the summaries of the data supplied provide some useful information about the level of AIS funding in the different institutional groups.

⁵Seventy-five institutions did not list an annual operating budget, so the latest available Higher Education General Information Survey (HEGIS) finance information for total current fund expenditures was used to approximate a total annual operating budget for these institutions.

Figures 20 through 23 show graphs of the average AIS annual budget for the major institutional groups only within four size groups, since it is only relevant to compare these data for institutions of similar sizes. Detailed summaries of the average AIS annual budgets for institutional groups appear in Tables 12, 13, and 14.

The average AIS annual budget for large institutions is \$1,977,651, and the 38 universities reporting in this group dominate that category with an average slightly over \$2.1 million. Large institutions with separate administrative installations report an average AIS annual budget of \$2.6 million compared to only \$1.5 million for combined installations. Data are not shown for the large private institutions, since fewer than five institutions were in this category.

The average AIS budget for the 72 medium-large institutions should be viewed in light of the fact that six private universities reported an average of almost \$2.4 million while the other institutional groups are all very close to the \$826,288 average for this size category. In this size category, institutions like Stanford, Notre Dame, and Marquette Universities and other similar private institutions provided most of the data for the private group, while many of the other institutions do not have computing installations of the same stature.

Medium-sized institutions report an average AIS annual budget of \$499,992, ranging from a low of \$270,473 for two-year institutions to a high of \$761,550 for the universities. Again, separate administrative installations report an average AIS budget of almost twice that of the combined installations (\$780,537 versus \$405,390).

Small institutions report an average AIS annual budget of \$287,979, ranging from a low of \$195,015 for two-year institutions to a high of \$436,956 for small public four-year institutions.

Figure 20
AVERAGE AIS ANNUAL BUDGET
Large Institutions

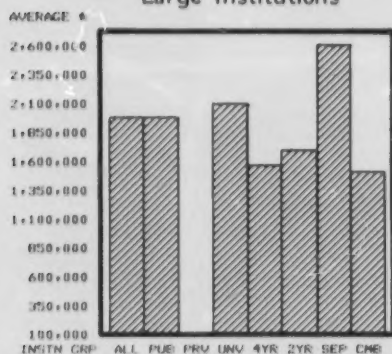


Figure 21
AVERAGE AIS ANNUAL BUDGET
Medium-Large Institutions

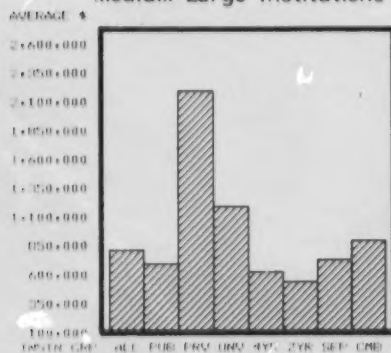


Figure 22
AVERAGE AIS ANNUAL BUDGET
Medium Institutions

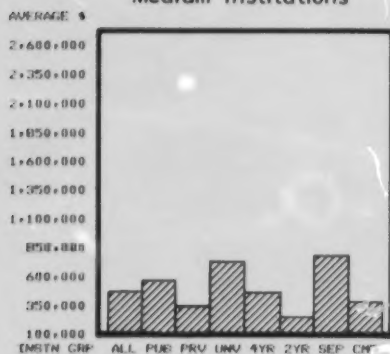


Figure 23
AVERAGE AIS ANNUAL BUDGET
Small Institutions

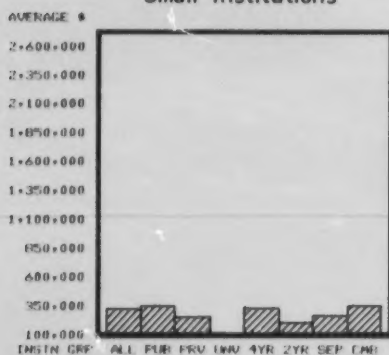


Table 12
AVERAGE AIS ANNUAL BUDGET BY FUNCTION
All Responding Institutions

CONTROL-HALL SIZE-SMALL	TYPE-UNIV AVG BUDGET	PCT	TYPE-4-YR AVG BUDGET	PCT	TYPE-5-YR AVG BUDGET	PCT	TYPE-HALL AVG BUDGET	PCT
STAFF			\$163,990	54%	\$161,909	52%	\$155,339	54%
HARDWARE			\$94,301	31%	\$67,500	33%	\$89,568	31%
SOFTWARE			\$0,136	3%	\$12,836	7%	\$9,139	3%
COMMUNICATIONS			\$9,919	2%	\$1,571	1%	\$5,228	2%
OTHER			\$32,682	11%	\$11,111	5%	\$28,727	10%
TOTAL BUDGET (AVG)			\$303,612	100%	\$195,015	100%	\$287,979	100%
INSTNS IN GROUP	1		39		9		49	

CONTROL-HALL SIZE-MEDIUM	TYPE-UNIV AVG BUDGET	PCT	TYPE-4-YR AVG BUDGET	PCT	TYPE-2-YR AVG BUDGET	PCT	TYPE-HALL AVG BUDGET	PCT
STAFF	\$357,969	92%	\$258,038	99%	\$134,448	56%	\$242,339	90%
HARDWARE	\$175,148	26%	\$167,779	34%	\$83,428	31%	\$154,161	31%
SOFTWARE	\$73,883	4%	\$15,028	3%	\$12,579	5%	\$18,448	4%
COMMUNICATIONS	\$7,947	1%	\$9,585	2%	\$3,387	1%	\$7,759	2%
OTHER	\$166,087	22%	\$57,036	12%	\$36,647	14%	\$77,405	15%
TOTAL BUDGET (AVG)	\$761,550	100%	\$499,259	100%	\$278,473	100%	\$499,992	100%
INSTNS IN GROUP	26		62		27		115	

CONTROL-HALL SIZE-M-LARGE	TYPE-UNIV AVG BUDGET	PCT	TYPE-4-YR AVG BUDGET	PCT	TYPE-2-YR AVG BUDGET	PCT	TYPE-HALL AVG BUDGET	PCT
STAFF	\$686,212	58%	\$323,611	53%	\$294,919	53%	\$462,827	56%
HARDWARE	\$273,768	23%	\$187,096	31%	\$149,798	36%	\$222,624	27%
SOFTWARE	\$17,219	1%	\$15,799	3%	\$22,671	4%	\$16,961	2%
COMMUNICATIONS	\$16,961	1%	\$8,877	1%	\$1,329	0%	\$11,692	1%
OTHER	\$182,173	15%	\$77,657	13%	\$38,184	8%	\$116,173	14%
TOTAL BUDGET (AVG)	\$1,175,826	100%	\$613,941	100%	\$555,294	100%	\$826,288	100%
INSTNS IN GROUP	28		37		7		72	

CONTROL-HALL SIZE-LARGE	TYPE-UNIV AVG BUDGET	PCT	TYPE-4-YR AVG BUDGET	PCT	TYPE-2-YR AVG BUDGET	PCT	TYPE-HALL AVG BUDGET	PCT
STAFF	\$1,137,543	54%	\$974,667	63%	\$458,963	39%	\$1,043,091	53%
HARDWARE	\$563,524	27%	\$345,667	24%	\$221,812	31%	\$539,988	27%
SOFTWARE	\$81,031	4%	\$25,833	2%	\$77,743	6%	\$78,126	4%
COMMUNICATIONS	\$71,270	3%	\$22,589	1%	\$32,582	2%	\$89,484	3%
OTHER	\$251,830	12%	\$164,167	11%	\$377,474	22%	\$261,651	13%
TOTAL BUDGET (AVG)	\$2,106,825	100%	\$1,552,833	100%	\$1,686,492	100%	\$1,977,451	100%
INSTNS IN GROUP	38		6		8		52	

CONTROL-HALL SIZE-HALL	TYPE-UNIV AVG BUDGET	PCT	TYPE-4-YR AVG BUDGET	PCT	TYPE-2-YR AVG BUDGET	PCT	TYPE-HALL AVG BUDGET	PCT
STAFF	\$774,096	54%	\$271,736	53%	\$232,637	45%	\$427,183	53%
HARDWARE	\$368,317	26%	\$161,189	31%	\$165,988	32%	\$228,882	28%
SOFTWARE	\$48,175	3%	\$13,084	3%	\$27,488	5%	\$27,347	3%
COMMUNICATIONS	\$36,048	3%	\$8,676	2%	\$7,351	1%	\$17,536	2%
OTHER	\$284,761	14%	\$68,283	12%	\$85,483	16%	\$111,345	14%
TOTAL BUDGET (AVG)	\$1,432,982	100%	\$515,531	100%	\$518,378	100%	\$812,294	100%
INSTNS IN GROUP	93		144		51		288	

Table 12 (continued)
AVERAGE AIS ANNUAL BUDGET BY FUNCTION
Public Institutions

---CONTROL-PUBLIC ---SIZE=SMALL	TYPE=UNIV AUG BUDGET	PCT	TYPE=4-YR AUG BUDGET	PCT	TYPE=2-YR AUG BUDGET	PCT	TYPE=ALL AUG BUDGET	PCT
STAFF			9194.883	44%	9181.909	52%	9156.891	48%
MANAGEMENT			9169.469	39%	9675.588	35%	9117.515	36%
SOFTWARE			911.090	3%	912.436	7%	912.582	4%
COMMUNICATIONS			95.156	1%	91.571	1%	95.010	2%
OTHER			956.437	13%	911.111	6%	932.733	10%
TOTAL BUDGET (AUG)			9438.956	100%	9195.615	100%	9326.460	100%
INSTRS IN GROUP	1		9		9		19	
---CONTROL-PUBLIC ---SIZE=MEDIUM	TYPE=UNIV AUG BUDGET	PCT	TYPE=4-YR AUG BUDGET	PCT	TYPE=2-YR AUG BUDGET	PCT	TYPE=ALL AUG BUDGET	PCT
STAFF	9529.386	46%	9276.366	58%	9132.572	58%	9271.016	49%
MANAGEMENT	9328.284	28%	9282.615	37%	983.936	31%	9185.330	33%
SOFTWARE	953.568	3%	916.744	3%	911.371	4%	928.778	4%
COMMUNICATIONS	915.872	1%	981.829	2%	93.325	1%	986.891	1%
OTHER	9234.899	28%	947.272	9%	936.364	14%	972.810	13%
TOTAL BUDGET (AUG)	91188.349	100%	9551.826	100%	9267.568	100%	9558.817	100%
INSTRS IN GROUP	13		45		26		84	
---CONTROL-PUBLIC ---SIZE=+LARGE	TYPE=UNIV AUG BUDGET	PCT	TYPE=4-YR AUG BUDGET	PCT	TYPE=2-YR AUG BUDGET	PCT	TYPE=ALL AUG BUDGET	PCT
STAFF	9492.265	57%	9328.761	53%	9296.914	53%	9372.856	55%
MANAGEMENT	9188.744	22%	9182.336	38%	9199.798	36%	9188.386	27%
SOFTWARE	917.841	2%	916.126	3%	922.871	4%	917.876	3%
COMMUNICATIONS	913.158	2%	985.513	1%	91.329	1%	985.218	1%
OTHER	9142.893	17%	977.888	13%	935.184	4%	995.828	14%
TOTAL BUDGET (AUG)	9893.299	100%	9485.524	100%	9555.296	100%	9489.448	100%
INSTRS IN GROUP	22		36		7		85	
---CONTROL-PUBLIC ---SIZE=LARGE	TYPE=UNIV AUG BUDGET	PCT	TYPE=4-YR AUG BUDGET	PCT	TYPE=2-YR AUG BUDGET	PCT	TYPE=ALL AUG BUDGET	PCT
STAFF	91131.848	54%	9774.667	43%	9458.963	39%	91436.845	53%
MANAGEMENT	9536.318	24%	985.667	2%	9525.812	31%	9514.153	24%
SOFTWARE	982.553	4%	925.833	2%	999.743	6%	978.483	4%
COMMUNICATIONS	968.266	3%	922.588	1%	932.588	2%	957.851	3%
OTHER	9262.773	13%	9164.167	11%	9377.474	22%	9269.293	14%
TOTAL BUDGET (AUG)	92.081.738	100%	91.352.833	100%	91.888.492	100%	91.955.824	100%
INSTRS IN GROUP	36		6		8		88	
---CONTROL-PUBLIC ---SIZE=ALL	TYPE=UNIV AUG BUDGET	PCT	TYPE=4-YR AUG BUDGET	PCT	TYPE=2-YR AUG BUDGET	PCT	TYPE=ALL AUG BUDGET	PCT
STAFF	9813.269	54%	9328.936	53%	9233.818	45%	9466.988	52%
MANAGEMENT	9386.498	24%	9282.894	32%	9167.988	32%	9255.152	29%
SOFTWARE	956.343	4%	916.625	3%	927.272	5%	932.188	4%
COMMUNICATIONS	941.568	3%	97.271	1%	87.298	1%	919.484	2%
OTHER	9217.938	14%	966.918	11%	986.231	17%	9121.891	14%
TOTAL BUDGET (AUG)	91.515.288	100%	9623.794	100%	9521.818	100%	9894.814	100%
INSTRS IN GROUP	72		96		58		218	

Table 12 (continued)
AVERAGE AIS ANNUAL BUDGET BY FUNCTION
Private Institutions

CONTROL-PRIVATE SIZE=SMALL	TYPE=UNIV AVG BUDGET	PCT	TYPE=4-YR AVG BUDGET	PCT	TYPE=2-YR AVG BUDGET	PCT	TYPE=ALL AVG BUDGET	PCT
STAFF			\$154,347	59%			\$154,347	59%
HARDWARE			\$71,050	27%			\$71,050	27%
SOFTWARE			\$7,009	3%			\$7,009	3%
COMMUNICATIONS			\$4,041	2%			\$4,041	2%
OTHER			\$25,056	10%			\$25,056	10%
TOTAL BUDGET (AVG)			\$263,499	100%			\$263,499	100%
INSTNS IN GROUP			30				30	
CONTROL-PRIVATE SIZE=MEDIUM	TYPE=UNIV AVG BUDGET	PCT	TYPE=4-YR AVG BUDGET	PCT	TYPE=2-YR AVG BUDGET	PCT	TYPE=ALL AVG BUDGET	PCT
STAFF	\$104,551	51%	\$146,795	45%			\$146,620	48%
HARDWARE	\$42,013	17%	\$75,567	23%			\$69,703	20%
SOFTWARE	\$13,692	4%	\$18,957	3%			\$12,096	4%
COMMUNICATIONS	\$622	0%	\$11,505	4%			\$6,009	2%
OTHER	\$99,674	27%	\$82,007	25%			\$80,670	26%
TOTAL BUDGET (AVG)	\$362,751	100%	\$327,286	100%			\$342,762	100%
INSTNS IN GROUP	13		17		1		31	
CONTROL-PRIVATE SIZE=H-LARGE	TYPE=UNIV AVG BUDGET	PCT	TYPE=4-YR AVG BUDGET	PCT	TYPE=2-YR AVG BUDGET	PCT	TYPE=ALL AVG BUDGET	PCT
STAFF	\$1,439,016	60%					\$1,290,093	59%
HARDWARE	\$580,480	24%					\$503,050	25%
SOFTWARE	\$17,873	1%					\$15,095	1%
COMMUNICATIONS	\$28,586	1%					\$27,643	1%
OTHER	\$329,136	14%					\$292,020	13%
TOTAL BUDGET (AVG)	\$2,395,091	100%					\$2,178,654	100%
INSTNS IN GROUP	6		1				7	
CONTROL-PRIVATE SIZE=LARGE	TYPE=UNIV AVG BUDGET	PCT	TYPE=4-YR AVG BUDGET	PCT	TYPE=2-YR AVG BUDGET	PCT	TYPE=ALL AVG BUDGET	PCT
STAFF								
HARDWARE								
SOFTWARE								
COMMUNICATIONS								
OTHER								
TOTAL BUDGET (AVG)								
INSTNS IN GROUP	2						2	
CONTROL-PRIVATE SIZE=ALL	TYPE=UNIV AVG BUDGET	PCT	TYPE=4-YR AVG BUDGET	PCT	TYPE=2-YR AVG BUDGET	PCT	TYPE=ALL AVG BUDGET	PCT
STAFF	\$443,304	56%	\$157,336	20%			\$503,193	55%
HARDWARE	\$386,018	27%	\$79,141	2%			\$147,021	26%
SOFTWARE	\$20,173	2%	\$0,160	0%			\$12,202	2%
COMMUNICATIONS	\$20,620	2%	\$7,360	1%			\$10,463	2%
OTHER	\$160,900	19%	\$56,771	10%			\$80,977	15%
TOTAL BUDGET (AVG)	\$1,151,094	100%	\$299,883	10%			\$755,102	100%
INSTNS IN GROUP	21		40		1		70	

Table 13
AVERAGE AIS ANNUAL BUDGET BY FUNCTION
All Separate Administrative Installations

CONTROL--ALL SIZE--SMALL	TYPE--MIEV AVG BUDGET	PCT	TYPE--4-YR AVG BUDGET	PCT	TYPE--2-YR AVG BUDGET	PCT	TYPE--ALL AVG BUDGET	PCT
STAFF			\$135,737	56%			\$144,165	56%
HARDWARE			\$59,380	24%			\$59,743	23%
SOFTWARE			\$13,362	6%			\$16,247	6%
COMMUNICATIONS			\$16,554	4%			\$12,488	5%
OTHER			\$23,567	10%			\$24,629	10%
TOTAL BUDGET (AVG)			\$242,599	100%			\$256,916	100%
INSTNS IN GROUP	1		13		1		15	
CONTROL--ALL SIZE--MEDIUM	TYPE--MIEV AVG BUDGET	PCT	TYPE--4-YR AVG BUDGET	PCT	TYPE--2-YR AVG BUDGET	PCT	TYPE--ALL AVG BUDGET	PCT
STAFF	\$984,230	49%	\$358,270	44%			\$329,455	44%
HARDWARE	\$177,329	10%	\$234,143	42%			\$241,598	31%
SOFTWARE	\$47,210	3%	\$25,404	3%			\$36,178	4%
COMMUNICATIONS	\$15,162	2%	\$20,404	3%			\$17,161	2%
OTHER	\$248,070	27%	\$45,768	8%			\$131,784	17%
TOTAL BUDGET (AVG)	\$996,917	100%	\$796,101	100%			\$757,537	100%
INSTNS IN GROUP	10		15		4		29	
CONTROL--ALL SIZE--LARGE	TYPE--MIEV AVG BUDGET	PCT	TYPE--4-YR AVG BUDGET	PCT	TYPE--2-YR AVG BUDGET	PCT	TYPE--ALL AVG BUDGET	PCT
STAFF	\$561,587	43%	\$385,799	50%			\$393,635	54%
HARDWARE	\$141,016	16%	\$108,513	11%			\$143,275	23%
SOFTWARE	\$16,560	1%	\$14,241	2%			\$12,228	2%
COMMUNICATIONS	\$25,440	3%	\$13,968	2%			\$17,492	3%
OTHER	\$158,251	10%	\$84,082	14%			\$112,521	16%
TOTAL BUDGET (AVG)	\$896,424	100%	\$666,783	100%			\$689,344	100%
INSTNS IN GROUP	10		15		1		26	
CONTROL--ALL SIZE--LARGE	TYPE--MIEV AVG BUDGET	PCT	TYPE--4-YR AVG BUDGET	PCT	TYPE--2-YR AVG BUDGET	PCT	TYPE--ALL AVG BUDGET	PCT
STAFF	\$1,394,918	51%					\$1,367,168	57%
HARDWARE	\$714,270	26%					\$677,318	26%
SOFTWARE	\$180,267	5%					\$113,413	4%
COMMUNICATIONS	\$132,210	5%					\$113,406	4%
OTHER	\$350,518	13%					\$337,417	13%
TOTAL BUDGET (AVG)	\$2,772,183	100%					\$2,608,714	100%
INSTNS IN GROUP	10		4				22	
CONTROL--ALL SIZE--LARGE	TYPE--MIEV AVG BUDGET	PCT	TYPE--4-YR AVG BUDGET	PCT	TYPE--2-YR AVG BUDGET	PCT	TYPE--ALL AVG BUDGET	PCT
STAFF	\$919,045	52%	\$552,093	51%	\$22,708	4%	\$574,933	52%
HARDWARE	\$413,058	24%	\$224,719	10%	\$41,175	2%	\$293,949	26%
SOFTWARE	\$75,277	4%	\$19,636	3%	\$12,167	7%	\$42,736	4%
COMMUNICATIONS	\$74,782	4%	\$16,436	2%	\$217	0%	\$39,620	4%
OTHER	\$375,066	19%	\$24,977	1%	\$43,857	2%	\$158,041	14%
TOTAL BUDGET (AVG)	\$1,778,234	100%	\$699,551	100%	\$167,323	100%	\$1,109,279	100%
INSTNS IN GROUP	10		57		6		92	

Table 13 (continued)
AVERAGE AIS ANNUAL BUDGET BY FUNCTION
Separate Administrative Installations
in Public Institutions

CONTROL-PUBLIC SIZE-SMALL	TYPE-UNIV AVG BUDGET	PCT	TYPE-4-YR AVG BUDGET	PCT	TYPE-2-YR AVG BUDGET	PCT	TYPE-ALL AVG BUDGET	PCT
STAFF							\$297,165	56%
MATERIALS							\$127,047	24%
EXP. TRAVEL							\$33,242	4%
COMMUNICATIONS							\$11,921	2%
OTHER							\$63,672	12%
TOTAL BUDGET (AVG)							\$533,047	100%
INSTALLS IN GROUP	1		3		1		5	
CONTROL-PUBLIC SIZE-MEDIUM	TYPE-UNIV AVG BUDGET	PCT	TYPE-4-YR AVG BUDGET	PCT	TYPE-2-YR AVG BUDGET	PCT	TYPE-ALL AVG BUDGET	PCT
STAFF	\$711,752	50%	\$422,949	42%			\$427,770	46%
MATERIALS	\$287,558	20%	\$446,288	43%			\$322,081	34%
EXP. TRAVEL	\$46,675	3%	\$30,200	3%			\$34,060	4%
COMMUNICATIONS	\$37,974	3%	\$18,628	2%			\$19,464	2%
OTHER	\$311,389	22%	\$78,125	8%			\$138,755	14%
TOTAL BUDGET (AVG)	\$1,417,163	100%	\$995,490	100%			\$933,071	100%
INSTALLS IN GROUP	5		19		4		19	
CONTROL-PUBLIC SIZE-M-LARGE	TYPE-UNIV AVG BUDGET	PCT	TYPE-4-YR AVG BUDGET	PCT	TYPE-2-YR AVG BUDGET	PCT	TYPE-ALL AVG BUDGET	PCT
STAFF	\$539,137	46%	\$297,197	51%			\$369,161	57%
MATERIALS	\$79,280	10%	\$176,274	30%			\$125,253	21%
EXP. TRAVEL	\$2,525	0%	\$15,678	3%			\$9,907	2%
COMMUNICATIONS	\$16,273	2%	\$13,395	2%			\$13,871	2%
OTHER	\$176,612	22%	\$85,136	14%			\$116,080	18%
TOTAL BUDGET (AVG)	\$913,636	100%	\$587,179	100%			\$645,081	100%
INSTALLS IN GROUP	8		19		1		23	
CONTROL-PUBLIC SIZE-LARGE	TYPE-UNIV AVG BUDGET	PCT	TYPE-4-YR AVG BUDGET	PCT	TYPE-2-YR AVG BUDGET	PCT	TYPE-ALL AVG BUDGET	PCT
STAFF	\$1,413,713	51%					\$1,379,070	53%
MATERIALS	\$671,065	24%					\$639,692	24%
EXP. TRAVEL	\$137,918	5%					\$117,039	5%
COMMUNICATIONS	\$133,858	5%					\$112,194	4%
OTHER	\$896,490	32%					\$365,659	14%
TOTAL BUDGET (AVG)	\$2,753,082	100%					\$2,615,252	100%
INSTALLS IN GROUP	16		4				20	
CONTROL-PUBLIC SIZE-ALL	TYPE-UNIV AVG BUDGET	PCT	TYPE-4-YR AVG BUDGET	PCT	TYPE-2-YR AVG BUDGET	PCT	TYPE-ALL AVG BUDGET	PCT
STAFF	\$1,626,942	51%	\$966,357	51%	\$72,780	43%	\$462,113	52%
MATERIALS	\$430,731	22%	\$386,273	33%	\$41,175	24%	\$338,260	26%
EXP. TRAVEL	\$86,113	4%	\$24,498	3%	\$12,167	7%	\$59,990	4%
COMMUNICATIONS	\$69,792	4%	\$15,882	2%	\$217	0%	\$44,663	3%
OTHER	\$411,501	16%	\$103,170	11%	\$43,857	25%	\$191,002	15%
TOTAL BUDGET (AVG)	\$3,178,099	100%	\$2,166,185	100%	\$169,123	100%	\$1,307,098	100%
THE (M) IN GROUP	30		31		6		67	

Table 13 (continued)
AVERAGE AIS ANNUAL BUDGET BY FUNCTION
Separate Administrative Installations
in Private Institutions

---CONTROL---PRIVATE	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
---SIZE=SMALL	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT
STAFF			\$67,576	57%			\$67,576	57%
HARDWARE			\$25,278	21%			\$25,278	21%
SOFTWARE			\$7,758	7%			\$7,758	7%
COMMUNICATIONS			\$12,760	11%			\$12,760	11%
OTHER			\$5,695	4%			\$5,695	4%
TOTAL BUDGET (AVG)			\$118,958	100%			\$118,958	100%
INSTNS IN GROUP			10				10	
---CONTROL---PRIVATE	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
---SIZE=MEDIUM	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT
STAFF	\$286,724	45%	\$204,912	52%			\$230,818	47%
HARDWARE	\$67,188	12%	\$110,838	28%			\$88,965	18%
SOFTWARE	\$26,888	5%	\$18,413	4%			\$21,206	4%
COMMUNICATIONS	\$888	0%	\$25,171	6%			\$12,705	3%
OTHER	\$226,446	39%	\$41,629	10%			\$133,738	27%
TOTAL BUDGET (AVG)	\$576,678	100%	\$399,559	100%			\$487,112	100%
INSTNS IN GROUP	5		5				10	
---CONTROL---PRIVATE	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
---SIZE=H-LARGE	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT
STAFF								
HARDWARE								
SOFTWARE								
COMMUNICATIONS								
OTHER								
TOTAL BUDGET (AVG)								
INSTNS IN GROUP	2		1				3	
---CONTROL---PRIVATE	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
---SIZE=LARGE	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT
STAFF								
HARDWARE								
SOFTWARE								
COMMUNICATIONS								
OTHER								
TOTAL BUDGET (AVG)								
INSTNS IN GROUP	2						2	
---CONTROL---PRIVATE	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
---SIZE=ALL	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT
STAFF	\$562,057	49%	\$132,400	52%			\$309,699	58%
HARDWARE	\$177,612	31%	\$72,501	29%			\$177,193	38%
SOFTWARE	\$39,155	3%	\$10,224	4%			\$28,639	4%
COMMUNICATIONS	\$41,911	4%	\$17,215	7%			\$26,186	5%
OTHER	\$156,871	14%	\$26,139	10%			\$89,491	17%
TOTAL BUDGET (AVG)	\$1,136,607	100%	\$258,269	100%			\$531,119	100%
INSTNS IN GROUP	9		16				25	

Table 14
AVERAGE AIS ANNUAL BUDGET BY FUNCTION
All Combined Academic/Administrative Installations

CONTROL--ALL SIZE--SMALL	TYPE--UNIV AVG BUDGET	TYPE--4-YR AVG BUDGET	TYPE--2-YR AVG BUDGET	TYPE--ALL AVG BUDGET
STAFF	1177.379	535	1104.730	535
HARDWARE	1111.002	135	673.446	375
SOFTWARE	85.522	25	97.565	45
COMMUNICATIONS	92.694	15	91.560	15
OTHER	927.242	115	80.750	45
TOTAL BUDGET (AVG)	3284.128	100%	1196.267	100%
INSTNS IN GROUP	34	0	34	
CONTROL--ALL SIZE--MEDIUM	TYPE--UNIV AVG BUDGET	TYPE--4-YR AVG BUDGET	TYPE--2-YR AVG BUDGET	TYPE--ALL AVG BUDGET
STAFF	2779.658	455	1433.605	505
HARDWARE	2704.285	345	880.373	315
SOFTWARE	625.831	45	113.905	55
COMMUNICATIONS	92.694	15	93.976	15
OTHER	1103.142	175	936.640	135
TOTAL BUDGET (AVG)	6619.446	100%	2286.647	100%
INSTNS IN GROUP	18	47	23	88
CONTROL--ALL SIZE--LARGE	TYPE--UNIV AVG BUDGET	TYPE--4-YR AVG BUDGET	TYPE--2-YR AVG BUDGET	TYPE--ALL AVG BUDGET
STAFF	8755.493	575	9343.580	505
HARDWARE	8347.588	265	1106.130	305
SOFTWARE	821.805	25	916.793	35
COMMUNICATIONS	115.473	15	95.407	15
OTHER	8195.649	155	873.276	125
TOTAL BUDGET (AVG)	31331.822	100%	1629.969	100%
INSTNS IN GROUP	10	22	6	46
CONTROL--ALL SIZE--LARGE	TYPE--UNIV AVG BUDGET	TYPE--4-YR AVG BUDGET	TYPE--2-YR AVG BUDGET	TYPE--ALL AVG BUDGET
STAFF	9964.307	595	8450.963	395
HARDWARE	9427.866	205	8525.812	315
SOFTWARE	836.275	25	999.743	65
COMMUNICATIONS	115.473	15	932.500	25
OTHER	9155.833	185	8377.424	225
TOTAL BUDGET (AVG)	31244.712	100%	21666.492	100%
INSTNS IN GROUP	20	2	8	38
CONTROL--ALL SIZE--ALL	TYPE--UNIV AVG BUDGET	TYPE--4-YR AVG BUDGET	TYPE--2-YR AVG BUDGET	TYPE--ALL AVG BUDGET
STAFF	9670.288	565	9232.437	545
HARDWARE	9325.626	285	1179.319	305
SOFTWARE	820.682	25	916.793	35
COMMUNICATIONS	115.473	15	95.407	15
OTHER	8153.431	135	853.644	125
TOTAL BUDGET (AVG)	31197.898	100%	2464.910	100%
INSTNS IN GROUP	54	97	43	196

Table 14 (continued)
AVERAGE AIS ANNUAL BUDGET BY FUNCTION
Combined Academic/Administrative Installations
in Public Institutions

CONTROL-PUBLIC	TYPE-FUNIV		TYPE-4-YR		TYPE-2-YR		TYPE-ALL	
SIZE-SMALL	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT
STAFF			\$109,539	33%	\$104,738	53%	\$106,793	42%
MANAGEMENT			\$167,665	51%	\$73,496	37%	\$113,026	45%
SCH THANG			\$1,000	1%	\$7,565	4%	\$5,094	2%
COMMUNICATIONS			\$6,133	2%	\$17,768	1%	\$3,639	1%
OTHER			\$52,095	16%	\$8,750	4%	\$23,041	9%
TOTAL BUDGET (AVG)			\$327,227	100%	\$196,267	100%	\$252,393	100%
INSTNS IN GROUP			6		0		18	
CONTROL-PUBLIC	TYPE-FUNIV		TYPE-4-YR		TYPE-2-YR		TYPE-ALL	
SIZE-MEDIUM	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT
STAFF	\$415,487	42%	\$234,405	50%	\$141,250	50%	\$225,196	50%
MANAGEMENT	\$251,737	25%	\$121,019	31%	\$89,208	31%	\$145,256	32%
SCH THANG	\$44,061	4%	\$12,099	3%	\$12,620	4%	\$16,640	4%
COMMUNICATIONS	\$7,109	0%	\$6,203	1%	\$3,929	1%	\$4,767	1%
OTHER	\$105,043	10%	\$20,457	5%	\$30,314	11%	\$55,072	12%
TOTAL BUDGET (AVG)	\$999,040	100%	\$475,063	100%	\$283,322	100%	\$447,031	100%
INSTNS IN GROUP	8		35		22		65	
CONTROL-PUBLIC	TYPE-FUNIV		TYPE-4-YR		TYPE-2-YR		TYPE-ALL	
SIZE-LARGE	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT
STAFF	\$449,740	52%	\$335,757	54%	\$343,588	55%	\$374,079	50%
MANAGEMENT	\$251,294	29%	\$106,130	30%	\$231,081	37%	\$214,307	31%
SCH THANG	\$25,450	3%	\$16,793	3%	\$25,750	4%	\$29,258	3%
COMMUNICATIONS	\$11,371	1%	\$5,407	1%	\$1,333	0%	\$6,013	1%
OTHER	\$122,360	14%	\$23,276	7%	\$27,417	4%	\$83,000	12%
TOTAL BUDGET (AVG)	\$860,750	100%	\$617,362	100%	\$629,969	100%	\$700,125	100%
INSTNS IN GROUP	19		22		6		42	
CONTROL-PUBLIC	TYPE-FUNIV		TYPE-4-YR		TYPE-2-YR		TYPE-ALL	
SIZE-VERY-LARGE	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT
STAFF	\$786,357	59%	\$650,763	59%	\$650,763	59%	\$686,020	53%
MANAGEMENT	\$427,866	28%	\$225,012	31%	\$225,012	31%	\$438,960	28%
SCH THANG	\$30,225	2%	\$99,743	6%	\$99,743	6%	\$52,840	3%
COMMUNICATIONS	\$16,432	1%	\$32,500	2%	\$32,500	2%	\$20,280	1%
OTHER	\$150,030	10%	\$37,474	2%	\$37,474	2%	\$285,040	14%
TOTAL BUDGET (AVG)	\$1,549,712	100%	\$1,086,492	100%	\$1,086,492	100%	\$1,514,022	100%
INSTNS IN GROUP	28		2		8		38	
CONTROL-PUBLIC	TYPE-FUNIV		TYPE-4-YR		TYPE-2-YR		TYPE-ALL	
SIZE-ALL	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT
STAFF	\$687,334	54%	\$263,397	54%	\$254,870	45%	\$371,488	52%
MANAGEMENT	\$304,089	29%	\$152,488	31%	\$195,180	32%	\$210,277	31%
SCH THANG	\$35,878	3%	\$12,877	3%	\$29,132	5%	\$23,045	3%
COMMUNICATIONS	\$11,766	1%	\$6,044	1%	\$8,377	1%	\$6,315	1%
OTHER	\$158,394	12%	\$49,625	10%	\$92,118	16%	\$99,836	13%
TOTAL BUDGET (AVG)	\$1,212,773	100%	\$494,347	100%	\$569,085	100%	\$711,000	100%
INSTNS IN GROUP	42		85		44		151	

Table 14 (continued)
AVERAGE AIS ANNUAL BUDGET BY FUNCTION
Combined Academic/Administrative Installations
in Private Institutions

---CONTROL=PRIVATE	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
---SIZE=SMALL	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT
STAFF			6197,733	59%			6197,733	59%
HARDWARE			895,147	20%			895,147	20%
SOFTWARE			96,639	2%			96,639	2%
COMMUNICATIONS			8082	0%			8082	0%
OTHER			935,787	11%			935,787	11%
TOTAL BUDGET (AVG)			9336,108	100%			9336,108	100%
INSTNS IN GROUP			20				20	
---CONTROL=PRIVATE	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
---SIZE=MEDIUM	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT
STAFF	6142,693	62%	6122,588	61%			6133,119	60%
HARDWARE	850,833	26%	861,298	21%			860,722	22%
SOFTWARE	86,986	3%	87,975	3%			86,938	3%
COMMUNICATIONS	61,085	0%	65,925	2%			64,837	1%
OTHER	620,441	9%	6108,321	34%			607,289	25%
TOTAL BUDGET (AVG)	6229,052	100%	6298,968	100%			6274,824	100%
INSTNS IN GROUP	8		12		1		21	
---CONTROL=PRIVATE	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
---SIZE=+LARGE	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT
STAFF								
HARDWARE								
SOFTWARE								
COMMUNICATIONS								
OTHER								
TOTAL BUDGET (AVG)								
INSTNS IN GROUP	4						4	
---CONTROL=PRIVATE	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
---SIZE=LARGE	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT
STAFF								
HARDWARE								
SOFTWARE								
COMMUNICATIONS								
OTHER								
TOTAL BUDGET (AVG)								
INSTNS IN GROUP								
---CONTROL=PRIVATE	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
---SIZE=+LARGE	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT
STAFF								
HARDWARE								
SOFTWARE								
COMMUNICATIONS								
OTHER								
TOTAL BUDGET (AVG)								
INSTNS IN GROUP								
---CONTROL=PRIVATE	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
---SIZE=+LARGE	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT	AVG BUDGET	PCT
STAFF	6783,639	61%	6149,558	53%			6312,273	58%
HARDWARE	8267,387	22%	882,428	24%			6131,447	24%
SOFTWARE	65,937	1%	67,148	2%			67,658	1%
COMMUNICATIONS	64,666	0%	62,773	1%			63,327	1%
OTHER	6164,661	14%	659,987	19%			687,385	16%
TOTAL BUDGET (AVG)	61,145,610	100%	6321,878	100%			6542,678	100%
INSTNS IN GROUP	12		32		1		45	

AIS Budget as a Percent of the Institutional Budget

The AIS annual budget has traditionally been measured as a percent of the total annual institutional operating budget both by industry and by colleges and universities. It must be stated again that this technique measures only input to the process; however, in the aggregate, the information from a significant number of institutions can provide guidelines for comparison.

For this Monograph, the AIS annual budget reported by each institution was divided by the total annual institutional operating budget for that institution. The percentages derived were then tallied into the five levels shown in Table 15, which also shows the number of institutions and the distribution of those institutions across the five levels for each major institutional group. The detailed summaries for all institutional groups are shown in Tables 16, 17, and 18.

Table 15
AIS BUDGET AS A PERCENTAGE OF
THE INSTITUTIONAL BUDGET
By Major Institutional Groups

	ALL	PUB	PRV	IND	4YR	2YR	LCG	M/L	RED	SML	SEP	CMB
LESS THAN 1.0%	5%	4%	6%	8%	4%	1	6%	6%	5%	1	7%	4%
1.0% THRU 1.9%	20%	21%	49%	25%	37%	8%	12%	24%	30%	45%	33%	26%
2.0% THRU 2.9%	26%	27%	23%	22%	29%	24%	14%	39%	21%	29%	24%	27%
3.0% THRU 3.9%	17%	20%	10%	16%	18%	18%	10%	17%	24%	10%	14%	19%
4.0% AND ABOVE	24%	28%	12%	29%	12%	50%	57%	14%	14%	16%	23%	25%
INSTIT IN GRP	202	213	69	89	143	50	49	71	113	49	88	194

The data in Table 15 indicate that a majority (71%) of the responding institutions report an AIS annual budget of 1% to 4% of their total institutional budget. Only 5% report less than 1%, with a surprising 24% reporting 4% and above. These numbers are nearly the same for public institutions; however, the private institutions show a much different budget profile, allocating smaller shares of the total institutional budget to administrative information systems than public institutions. Fifty-five percent of the private institutions spend 2% or less of their total institutional

budget on AIS, whereas only 25% of the public institutions spend such a small share on this function. At the high end, 28% of the public institutions spend 4% or more of their total institutional budget on administrative information systems, in contrast to only 12% of the private institutions. Public institutions in general, partially because of their larger average institutional size, place greater emphasis on administrative information systems than do private institutions. By institution type, two-year institutions and large institutions are at the highest levels, with 50% and 57%, respectively, reporting 4% and above of their institutional budget to administrative information systems.

At the low end of the scale, none of the two-year or small institutions report less than 1%, but all other institutional groups have about the same percentage of institutions at this low level. Of interest also is the fact that separate and combined installations show about the same distribution in this area. This information, while not directly comparable, indicates little change from similar information presented in a 1975 NCHEMS publication.⁶

Institutional administrators should certainly be interested in the percentage of the total institutional budget allocated to administrative information systems, and the information in this Monograph is intended to provide guidelines in this area. According to Dr. Ronald W. Brady, Executive Vice-President of the University of Illinois, however, there is another significant number that should also be monitored: the percent of the total institutional budget allocated to Administrative & General, the area generally comparable to the Institutional Support budget request by the finance section of the Higher Education General Information Survey (HEGIS). In an article in CAUSE/EFFECT,⁷ Dr. Brady

⁶Richard L. Mann et al., An Overview of Two Recent Surveys of Administrative Computer Operations in Higher Education (Boulder, Colorado: National Center for Higher Education Management Systems at WICHE, 1975), p. 11.

⁷Ronald W. Brady, "Technology and Administrative Productivity," CAUSE/EFFECT September 1980, p. 35-56.

points out that, at the University of Illinois, increased administrative data processing expenditures from 1971 to 1979 resulted in a lowering of the Administrative & General budget share of the total institutional budget. An attempt was made to measure this situation from the 1980 Profile data and data acquired from government files. However, as Dr. Brady pointed out, only time-series data from specific institutions can be used to monitor this measure of productivity. Analysis of the data for a single year will only re-prove "economies of scale," since larger institutions are able to do more with a smaller percent of their total institutional budget.

It is important, however, for administrators to monitor this information for their institutions, and some of the data on the Profile can be used for this purpose.

Table 16

AIS BUDGET AS A PERCENT OF THE INSTITUTIONAL BUDGET All Responding Institutions

---CONTROL=ALL ---SIZE=SMALL	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%		0%	0%	0%
1.0% THRU 1.9%		21 54%	1 11%	22 45%
2.0% THRU 2.9%		10 26%	3 33%	14 29%
3.0% THRU 3.9%		4 10%	1 11%	5 10%
4.0% AND ABOVE		4 10%	4 44%	8 16%
INSTNS IN GROUP	1	39 100%	9 100%	49 100%
---CONTROL=ALL ---SIZE=MEDIUM	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%	3 12%	3 5%	0%	6 5%
1.0% THRU 1.9%	9 36%	23 38%	2 7%	34 30%
2.0% THRU 2.9%	3 12%	15 25%	6 22%	24 21%
3.0% THRU 3.9%	7 28%	15 25%	5 19%	27 24%
4.0% AND ABOVE	3 12%	5 8%	14 52%	22 19%
INSTNS IN GROUP	25 100%	61 100%	27 100%	113 100%
---CONTROL=ALL ---SIZE=M-LARGE	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%	2 7%	2 5%	0%	4 6%
1.0% THRU 1.9%	8 30%	8 22%	1 14%	17 24%
2.0% THRU 2.9%	9 33%	16 42%	3 43%	28 39%
3.0% THRU 3.9%	2 7%	7 19%	3 43%	12 17%
4.0% AND ABOVE	6 22%	4 11%	0%	10 14%
INSTNS IN GROUP	27 100%	37 100%	7 100%	71 100%
---CONTROL=ALL ---SIZE=LARGE	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%	2 6%	1 1%	0%	3 6%
1.0% THRU 1.9%	5 14%	1 1%	0%	6 12%
2.0% THRU 2.9%	7 19%	0%	0%	7 14%
3.0% THRU 3.9%	5 14%	0%	0%	5 10%
4.0% AND ABOVE	17 47%	4 6%	7 100%	28 52%
INSTNS IN GROUP	36 100%	6 100%	7 100%	49 100%
---CONTROL=ALL ---SIZE=ALL	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%	7 8%	6 4%	0%	13 5%
1.0% THRU 1.9%	22 25%	53 37%	4 8%	79 20%
2.0% THRU 2.9%	20 22%	41 29%	12 24%	73 26%
3.0% THRU 3.9%	14 16%	26 18%	9 18%	49 17%
4.0% AND ABOVE	26 29%	17 12%	25 50%	68 24%
INSTNS IN GROUP	89 100%	143 100%	50 100%	282 100%

Table 16 (continued)

AIS BUDGET AS A PERCENT OF THE INSTITUTIONAL BUDGET Public Institutions

CONTROL=PUBLIC SIZE=SMALL	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%		0%	0%	0%
1.0% THRU 1.9%		3 33%	1 11%	4 21%
2.0% THRU 2.9%		2 22%	3 33%	6 32%
3.0% THRU 3.9%		2 22%	1 11%	3 16%
4.0% AND ABOVE		2 22%	4 44%	6 32%
INSTNS IN GROUP	1	9 100%	9 100%	19 100%
CONTROL=PUBLIC SIZE=MEDIUM	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%				
1.0% THRU 1.9%	1 6%	2 4%	0%	3 4%
2.0% THRU 2.9%	2 17%	14 31%	8 8%	18 22%
3.0% THRU 3.9%	5 42%	11 24%	6 23%	19 23%
4.0% AND ABOVE	2 17%	13 29%	5 19%	23 28%
INSTNS IN GROUP	12 100%	45 100%	26 100%	83 100%
CONTROL=PUBLIC SIZE=H-LARGE	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%				
1.0% THRU 1.9%	1 5%	2 6%	0%	3 5%
2.0% THRU 2.9%	8 38%	8 22%	1 14%	17 27%
3.0% THRU 3.9%	7 33%	15 42%	3 43%	25 39%
4.0% AND ABOVE	2 10%	7 19%	3 43%	12 19%
INSTNS IN GROUP	31 100%	36 100%	7 100%	84 100%
CONTROL=PUBLIC SIZE=LARGE	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%				
1.0% THRU 1.9%	2 6%	1 17%	0%	3 6%
2.0% THRU 2.9%	5 15%	1 17%	0%	6 13%
3.0% THRU 3.9%	7 21%	0%	0%	7 15%
4.0% AND ABOVE	4 12%	0%	0%	4 9%
INSTNS IN GROUP	16 47%	4 67%	7 100%	27 57%
CONTROL=PUBLIC SIZE=ALL	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%				
1.0% THRU 1.9%	4 6%	5 5%	0%	9 4%
2.0% THRU 2.9%	15 27%	26 27%	4 8%	45 21%
3.0% THRU 3.9%	17 25%	28 29%	12 24%	57 27%
4.0% AND ABOVE	11 16%	22 23%	9 18%	42 20%
INSTNS IN GROUP	21 31%	15 16%	24 49%	60 28%
INSTNS IN GROUP	68 100%	96 100%	49 100%	213 100%

Table 16 (continued)
 AIS BUDGET AS A PERCENT OF THE INSTITUTIONAL BUDGET
 Private Institutions

CONTROL=PRIVATE SIZE=SMALL	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%		0%		0%
1.0% THRU 1.9%		19 60%		19 60%
2.0% THRU 2.9%		8 27%		8 27%
3.0% THRU 3.9%		2 7%		2 7%
4.0% AND ABOVE		2 7%		2 7%
INSTNS IN GROUP		30 100%		30 100%
CONTROL=PRIVATE SIZE=MEDIUM	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%	2 15%	1 6%		3 10%
1.0% THRU 1.9%	7 54%	9 56%		16 53%
2.0% THRU 2.9%	1 8%	4 25%		5 17%
3.0% THRU 3.9%	2 15%	2 13%		4 13%
4.0% AND ABOVE	1 8%	0%		2 7%
INSTNS IN GROUP	13 100%	16 100%	1	30 100%
CONTROL=PRIVATE SIZE=M-LARGE	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%	1 17%			1 14%
1.0% THRU 1.9%		0%		0%
2.0% THRU 2.9%	2 33%			3 43%
3.0% THRU 3.9%		0%		0%
4.0% AND ABOVE	3 50%			3 43%
INSTNS IN GROUP	6 100%	1		7 100%
CONTROL=PRIVATE SIZE=LARGE	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%				
1.0% THRU 1.9%				
2.0% THRU 2.9%				
3.0% THRU 3.9%				
4.0% AND ABOVE				
INSTNS IN GROUP	2			2
CONTROL=PRIVATE SIZE=ALL	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%	3 14%	1 2%		4 6%
1.0% THRU 1.9%	7 33%	27 57%		34 49%
2.0% THRU 2.9%	3 14%	13 28%		16 23%
3.0% THRU 3.9%	3 14%	4 9%		7 10%
4.0% AND ABOVE	5 24%	2 4%		8 12%
INSTNS IN GROUP	21 100%	47 100%	1	69 100%

Table 17

AIS BUDGET AS A PERCENT OF THE INSTITUTIONAL BUDGET All Separate Administrative Installations

CONTROL-SMALL SIZE-SMALL	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%		0%		0%
1.0% THRU 1.9%		2 69%		10 67%
2.0% THRU 2.9%		2 15%		3 20%
3.0% THRU 3.9%		1 0%		1 7%
4.0% AND ABOVE		1 0%		1 7%
INSTNS IN GROUP	1	13 100%	1	15 100%
CONTROL-SMALL SIZE-MEDIUM	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%	0%	3 20%		3 11%
1.0% THRU 1.9%	3 33%	5 33%		8 29%
2.0% THRU 2.9%	0%	4 27%		6 21%
3.0% THRU 3.9%	3 33%	2 13%		6 21%
4.0% AND ABOVE	3 33%	1 7%		5 18%
INSTNS IN GROUP	9 100%	15 100%	4	28 100%
CONTROL-ALL SIZE-M-LARGE	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%	1 11%	0%		1 4%
1.0% THRU 1.9%	4 44%	4 27%		9 36%
2.0% THRU 2.9%	2 22%	8 53%		10 40%
3.0% THRU 3.9%	1 11%	1 7%		2 8%
4.0% AND ABOVE	1 11%	2 13%		3 12%
INSTNS IN GROUP	9 100%	15 100%	1	25 100%
CONTROL-ALL SIZE-LARGE	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%	2 13%			2 10%
1.0% THRU 1.9%	1 6%			2 10%
2.0% THRU 2.9%	2 13%			2 10%
3.0% THRU 3.9%	3 19%			3 15%
4.0% AND ABOVE	6 50%			11 55%
INSTNS IN GROUP	16 100%	4		20 100%
CONTROL-ALL SIZE-ALL	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%	3 9%	3 6%	0%	6 7%
1.0% THRU 1.9%	8 23%	19 40%	2 3%	29 33%
2.0% THRU 2.9%	5 14%	14 30%	2 3%	21 24%
3.0% THRU 3.9%	7 20%	4 9%	1 1%	12 14%
4.0% AND ABOVE	12 34%	7 15%	1 1%	20 23%
INSTNS IN GROUP	35 100%	47 100%	6 100%	88 100%

Table 17 (continued)

AIS BUDGET AS A PERCENT OF THE INSTITUTIONAL BUDGET
Separate Administrative Installations
in Public Institutions

--CONTROL=PUBLIC ----SIZE=SMALL	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%				0%
1.0% THRU 1.9%				3 60%
2.0% THRU 2.9%				1 20%
3.0% THRU 3.9%				0%
4.0% AND ABOVE				1 20%
INSTNS IN GROUP	1	3	1	5 100%

--CONTROL=PUBLIC ----SIZE=MEDIUM	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%		2 20%		2 11%
1.0% THRU 1.9%		3 30%		3 17%
2.0% THRU 2.9%		3 30%		5 20%
3.0% THRU 3.9%		1 10%		4 22%
4.0% AND ABOVE		1 10%		4 22%
INSTNS IN GROUP	4	10 100%	4	18 100%

--CONTROL=PUBLIC ----SIZE=M-LARGE	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%		0%		0%
1.0% THRU 1.9%	4 57%	4 29%		9 41%
2.0% THRU 2.9%	2 29%	7 50%		9 41%
3.0% THRU 3.9%	1 14%	1 7%		2 9%
4.0% AND ABOVE		2 14%		2 9%
INSTNS IN GROUP	7 100%	14 100%	1	22 100%

--CONTROL=PUBLIC ----SIZE=LARGE	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%	2 14%			2 11%
1.0% THRU 1.9%	1 7%			2 11%
2.0% THRU 2.9%	2 14%			2 11%
3.0% THRU 3.9%	2 14%			2 11%
4.0% AND ABOVE	7 50%			10 56%
INSTNS IN GROUP	14 100%	4		18 100%

--CONTROL=PUBLIC ----SIZE=ALL	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%	2 0%	2 6%	0%	4 6%
1.0% THRU 1.9%	5 19%	10 32%	2 33%	17 27%
2.0% THRU 2.9%	5 19%	10 32%	2 33%	17 27%
3.0% THRU 3.9%	5 19%	2 6%	1 17%	8 13%
4.0% AND ABOVE	9 35%	7 23%	1 17%	17 27%
INSTNS IN GROUP	26 100%	31 100%	6 100%	63 100%

Table 17 (continued)

AIS BUDGET AS A PERCENT OF THE INSTITUTIONAL BUDGET
Separate Administrative Installations
in Private Institutions

CONTROL=PRIVATE	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
SIZE=SMALL	INSTNS PCT	INSTNS PCT	INSTNS PCT	INSTNS PCT
LESS THAN 1.0%		0%		0%
1.0% THRU 1.9%		7 70%		7 70%
2.0% THRU 2.9%		2 20%		2 20%
3.0% THRU 3.9%		1 10%		1 10%
4.0% AND ABOVE		0%		0%
INSTNS IN GROUP		10 100%		10 100%
CONTROL=PRIVATE	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
SIZE=MEDIUM	INSTNS PCT	INSTNS PCT	INSTNS PCT	INSTNS PCT
LESS THAN 1.0%	0%	1 20%		1 10%
1.0% THRU 1.9%	3 60%	2 40%		5 50%
2.0% THRU 2.9%	0%	1 20%		1 10%
3.0% THRU 3.9%	1 20%	1 20%		2 20%
4.0% AND ABOVE	1 20%	0%		1 10%
INSTNS IN GROUP	5 100%	5 100%		10 100%
CONTROL=PRIVATE	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
SIZE=M-LARGE	INSTNS PCT	INSTNS PCT	INSTNS PCT	INSTNS PCT
LESS THAN 1.0%				
1.0% THRU 1.9%				
2.0% THRU 2.9%				
3.0% THRU 3.9%				
4.0% AND ABOVE				
INSTNS IN GROUP	2	1		3
CONTROL=PRIVATE	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
SIZE=LARGE	INSTNS PCT	INSTNS PCT	INSTNS PCT	INSTNS PCT
LESS THAN 1.0%				
1.0% THRU 1.9%				
2.0% THRU 2.9%				
3.0% THRU 3.9%				
4.0% AND ABOVE				
INSTNS IN GROUP	2			2
CONTROL=PRIVATE	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
SIZE=ALL	INSTNS PCT	INSTNS PCT	INSTNS PCT	INSTNS PCT
LESS THAN 1.0%	1 11%	1 6%		2 8%
1.0% THRU 1.9%	3 33%	9 56%		12 49%
2.0% THRU 2.9%	8%	4 25%		4 16%
3.0% THRU 3.9%	2 22%	2 13%		4 16%
4.0% AND ABOVE	3 33%	0%		3 12%
INSTNS IN GROUP	9 100%	16 100%		25 100%

Table 18

AI5 BUDGET AS A PERCENT OF THE INSTITUTIONAL BUDGET
All Combined Academic/Administrative Installations

---CONTROL=ALL	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=SMALL	INSTNS PCT	INSTNS PCT	INSTNS PCT	INSTNS PCT
LESS THAN 1.0%		0%	0%	0%
1.0% THRU 1.9%		12 46%		12 35%
2.0% THRU 2.9%		8 31%	3 38%	11 32%
3.0% THRU 3.9%		3 12%	1 13%	4 12%
4.0% AND ABOVE		3 12%	4 50%	7 21%
INSTNS IN GROUP		26 100%	8 100%	34 100%
---CONTROL=ALL	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=MEDIUM	INSTNS PCT	INSTNS PCT	INSTNS PCT	INSTNS PCT
LESS THAN 1.0%	3 19%	0%	0%	3 4%
1.0% THRU 1.9%	6 38%	18 39%	2 9%	26 31%
2.0% THRU 2.9%	3 19%	11 24%	4 17%	18 21%
3.0% THRU 3.9%	4 25%	13 28%	4 17%	21 25%
4.0% AND ABOVE	0%	4 9%	13 52%	17 20%
INSTNS IN GROUP	16 100%	46 100%	23 100%	85 100%
---CONTROL=ALL	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=M-LARGE	INSTNS PCT	INSTNS PCT	INSTNS PCT	INSTNS PCT
LESS THAN 1.0%	1 6%	2 9%	0%	3 7%
1.0% THRU 1.9%	4 22%	4 18%	0%	8 17%
2.0% THRU 2.9%	7 39%	8 36%	3 50%	18 39%
3.0% THRU 3.9%	1 6%	6 27%	3 50%	10 22%
4.0% AND ABOVE	5 28%	2 9%	0%	7 15%
INSTNS IN GROUP	18 100%	22 100%	6 100%	46 100%
---CONTROL=ALL	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=LARGE	INSTNS PCT	INSTNS PCT	INSTNS PCT	INSTNS PCT
LESS THAN 1.0%	0%		0%	1 3%
1.0% THRU 1.9%	4 20%		0%	4 14%
2.0% THRU 2.9%	5 25%		0%	5 17%
3.0% THRU 3.9%	2 10%		0%	2 7%
4.0% AND ABOVE	9 45%		7 100%	17 59%
INSTNS IN GROUP	20 100%	2	7 100%	29 100%
---CONTROL=ALL	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=ALL	INSTNS PCT	INSTNS PCT	INSTNS PCT	INSTNS PCT
LESS THAN 1.0%	4 7%	3 3%	0%	7 4%
1.0% THRU 1.9%	14 26%	34 35%	2 5%	50 26%
2.0% THRU 2.9%	15 28%	27 28%	10 23%	52 27%
3.0% THRU 3.9%	7 13%	22 23%	8 18%	37 19%
4.0% AND ABOVE	14 26%	18 18%	24 55%	46 25%
INSTNS IN GROUP	54 100%	96 100%	44 100%	194 100%

Table 18 (continued)

AIS BUDGET AS A PERCENT OF THE INSTITUTIONAL BUDGET
Combined Academic/Administrative Installations
in Public Institutions

—CONTROL=PUBLIC —SIZE=SMALL	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%		0%	0%	0%
1.0% THRU 1.9%		1 17%	0%	1 7%
2.0% THRU 2.9%		2 33%	3 30%	5 36%
3.0% THRU 3.9%		2 33%	1 10%	3 21%
4.0% AND ABOVE		1 17%	4 50%	5 36%
INSTNS IN GROUP		6 100%	8 100%	14 100%
—CONTROL=PUBLIC —SIZE=MEDIUM	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%	1 13%	0%	0%	1 2%
1.0% THRU 1.9%	2 25%	11 31%	2 9%	15 23%
2.0% THRU 2.9%	2 25%	9 27%	4 10%	14 22%
3.0% THRU 3.9%	3 38%	12 34%	4 10%	19 29%
4.0% AND ABOVE	0%	4 11%	12 55%	16 25%
INSTNS IN GROUP	8 100%	35 100%	22 100%	65 100%
—CONTROL=PUBLIC —SIZE=M-LARGE	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%	1 7%	2 9%	0%	3 7%
1.0% THRU 1.9%	4 29%	4 10%	0%	8 19%
2.0% THRU 2.9%	5 36%	8 36%	3 50%	16 30%
3.0% THRU 3.9%	1 7%	6 27%	3 50%	10 24%
4.0% AND ABOVE	3 21%	2 9%	0%	5 12%
INSTNS IN GROUP	14 100%	22 100%	6 100%	42 100%
—CONTROL=PUBLIC —SIZE=LARGE	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%	0%		0%	1 3%
1.0% THRU 1.9%	4 20%		0%	4 14%
2.0% THRU 2.9%	5 25%		0%	5 17%
3.0% THRU 3.9%	2 10%		0%	2 7%
4.0% AND ABOVE	9 45%		7 100%	17 59%
INSTNS IN GROUP	20 100%	2	7 100%	29 100%
—CONTROL=PUBLIC —SIZE=VERY-L	TYPE=UNIV INSTNS PCT	TYPE=4-YR INSTNS PCT	TYPE=2-YR INSTNS PCT	TYPE=ALL INSTNS PCT
LESS THAN 1.0%	2 54%	3 58%	0%	5 38%
1.0% THRU 1.9%	10 24%	16 25%	2 5%	20 19%
2.0% THRU 2.9%	12 29%	10 20%	10 23%	30 27%
3.0% THRU 3.9%	6 15%	20 31%	8 19%	34 25%
4.0% AND ABOVE	10 24%	8 12%	23 53%	41 29%
INSTNS IN GROUP	40 100%	65 100%	43 100%	150 100%

Table 18 (continued)
AIS BUDGET AS A PERCENT OF THE INSTITUTIONAL BUDGET
Combined Academic/Administrative Installations
in Private Institutions

---CONTROL=PRIVATE	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=SMALL	INSTNS PCT	INSTNS PCT	INSTNS PCT	INSTNS PCT
LESS THAN 1.0%		0%		0%
1.0% THRU 1.9%		11 55%		11 55%
2.0% THRU 2.9%		6 30%		6 30%
3.0% THRU 3.9%		1 5%		1 5%
4.0% AND ABOVE		2 10%		2 10%
INSTNS IN GROUP		20 100%		20 100%
---CONTROL=PRIVATE	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=MEDIUM	INSTNS PCT	INSTNS PCT	INSTNS PCT	INSTNS PCT
LESS THAN 1.0%	2 25%	0%		2 10%
1.0% THRU 1.9%	4 50%	7 87%		11 55%
2.0% THRU 2.9%	1 13%	3 33%		4 20%
3.0% THRU 3.9%	1 13%	1 9%		2 10%
4.0% AND ABOVE	0%	0%		1 5%
INSTNS IN GROUP	8 100%	11 100%	1	20 100%
---CONTROL=PRIVATE	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=H-LARGE	INSTNS PCT	INSTNS PCT	INSTNS PCT	INSTNS PCT
LESS THAN 1.0%				
1.0% THRU 1.9%				
2.0% THRU 2.9%				
3.0% THRU 3.9%				
4.0% AND ABOVE				
INSTNS IN GROUP	4			4
---CONTROL=PRIVATE	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=LARGE	INSTNS PCT	INSTNS PCT	INSTNS PCT	INSTNS PCT
LESS THAN 1.0%				
1.0% THRU 1.9%				
2.0% THRU 2.9%				
3.0% THRU 3.9%				
4.0% AND ABOVE				
INSTNS IN GROUP				
---CONTROL=PRIVATE	TYPE=UNIV	TYPE=4-YR	TYPE=2-YR	TYPE=ALL
---SIZE=ALL	INSTNS PCT	INSTNS PCT	INSTNS PCT	INSTNS PCT
LESS THAN 1.0%	2 17%	0%		2 9%
1.0% THRU 1.9%	4 33%	10 50%		14 59%
2.0% THRU 2.9%	3 25%	9 29%		12 27%
3.0% THRU 3.9%	1 8%	2 6%		3 7%
4.0% AND ABOVE	2 17%	2 6%		5 11%
INSTNS IN GROUP	12 100%	31 100%	1	44 100%

AIS Budget Distribution by Expenditure Category

In past years it was standard procedure for computer centers to double hardware costs to estimate the total budget. According to data derived from FICHE, 45% of the average computer center budget was allocated to hardware, and only 35% represented staff costs.⁸ Information from the 1980 Profile summarized in Table 19 indicates that computer hardware now accounts for less than one-third (28%) of the budgets for the 288 institutions that supplied AIS budget data. The drop in the percentage budgeted for computer hardware is now offset by an increase in the staff category, which averages more than 50% in almost all institutional groups. This shifting emphasis is indicative of general trends in computing, with staff costs representing an increasing share and hardware a diminishing share of the total cost.

It is interesting to note that the AIS budget distribution by expenditure category is remarkably consistent across all of the major institutional groups. Only the two-year institutions report a staff percentage significantly lower than average; all other expenditure categories are reasonably consistent for all institutional groups.

When compared to similar information in Table 20, also derived from FICHE, the budget shift from hardware to staff is readily apparent in all institutional groups.⁹

The FICHE information is roughly comparable, since it was possible to determine average expenditures in almost all institutional groups. The institutional size groups are slightly different, as noted at the bottom of Table 20, and data was not requested by FICHE for the communications category. Even with the differences noted, and the fact

⁸ Hamblen and Baird, pp. VI-03 to VI-08.

⁹ Ibid.

that the FICHE data include higher education computer installations of all types, the budget distribution by expenditure category shows the same consistency as that from the 1980 Profile.

Comparisons of this budget data should be carefully considered for all of the reasons listed earlier in this Chapter.

Table 19
AIS BUDGET DISTRIBUTION BY EXPENDITURE CATEGORY
By Major Institutional Groups

	ALL	PUB	PRV	UNV	4YR	2YR	LRG	M/L	MED	SM	SEPT	OMB
AIS STAFF	53%	52%	55%	54%	53%	45%	53%	56%	48%	54%	52%	53%
HARDWARE	28%	29%	26%	26%	31%	32%	27%	27%	31%	31%	26%	29%
SOFTWARE	3%	4%	2%	3%	3%	5%	4%	2%	4%	3%	4%	3%
COMMUNICATIONS	2%	2%	2%	3%	2%	1%	3%	1%	2%	2%	4%	1%
OTHER	14%	14%	15%	14%	12%	16%	13%	14%	15%	10%	14%	13%
INSTNS IN GRP	200	210	70	93	144	51	52	72	115	49	92	196

Table 20
COMPUTER CENTER BUDGET DISTRIBUTION
BY EXPENDITURE CATEGORY - 1976 - FICHE*

	ALL	PUB	PRV	UNV	4YR	2YR	LRG	M/L	MED	SM
STAFF	35%	36%	33%	39%	39%	32%	40%	41%	35%	36%
HARDWARE	45%	44%	40%	42%	54%	46%	42%	39%	45%	38%
SOFTWARE	5%	4%	6%	3%	7%	6%	2%	4%	5%	9%
OTHER	15%	16%	19%	16%	10%	16%	16%	16%	14%	16%

SIZE IS BASED ON LABELMENT: SMALL = ZERO - 2,499
MEDIUM = 2,500 - 9,999
M-LARGE = 10,000 - 19,999
LARGE = 20,000 AND OVER

* INFORMATION IN THIS TABLE WAS DERIVED FROM DATA IN THE
FOURTH QUARTER OF COMPUTERS IN U.S. HIGHER EDUCATION

AIS Cost Recovery

The financing of administrative information systems varies widely from institution to institution, ranging from the library model, where computer processing is a free resource, to the economic model, with full recovery of all costs. Rather than examining all of the alternative methods of cost recovery, the 1980 Profile simply asked if administrative information systems costs were fully or partially billed.

From the responses to the AIS cost recovery question, it is apparent that the majority of the institutions are not operating on a full cost recovery basis. In most institutional groups except universities and large institutions, over 40% do not bill for administrative information systems costs at all. About the same percentage bill only partially, and only about 20% bill fully for services. These percentages indicate that billing for computing costs is increasing, since 73% of the institutions reported no billing in the 1976 FICHE Survey.¹⁰

The percentage of institutions reporting full cost recovery increases with institutional size and complexity. Also, separate administrative installations are more likely to fully recover costs than combined academic/administrative installations. Two-year colleges constitute the highest percentage of institutions not billing for AIS services (58%) and universities the lowest (23%).

Summaries of the percentage of institutions responding are shown for the major institutional groups in Table 21, and detailed information is shown in Tables 22, 23 and 24.

As data from future Profiles are available it will be possible to report trends in AIS cost recovery. If the rest of the

¹⁰Ibid, p. VI-02.

institutional groups follow the trend in the large complex institutions, many should be billing all AIS costs to the user departments, or at least using some form of economic model to account for the computing resources used.

Table 21
AIS OPERATING COST RECOVERY
By Major Institutional Groups

	ALL	PUB	PRV	UNV	4YR	2YR	LRG	M/L	MED	SML	SEP	CMB
COSTS ARE BILLED	21%	23%	17%	30%	19%	13%	30%	29%	19%	8%	27%	19%
PARTIALLY BILLED	39%	37%	43%	47%	37%	29%	40%	36%	37%	44%	39%	39%
COST NOT BILLED	40%	40%	40%	23%	44%	58%	30%	34%	44%	48%	34%	42%
INSTNS IN GRP	350	240	98	109	179	62	60	85	142	63	108	242

Table 22
AIS OPERATING COST RECOVERY
All Responding Institutions

---CONTROL=ALL ---SIZE=SMALL	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
COSTS ARE BILLED		5 10%	0%	5 8%
PARTIALLY BILLED		23 45%	4 36%	28 44%
COSTS NOT BILLED		23 45%	7 64%	30 48%
INSTNS IN GROUP	1	51 100%	11 100%	63 100%
---CONTROL=ALL ---SIZE=MEDIUM	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
COSTS ARE BILLED	5 15%	15 20%	7 21%	27 19%
PARTIALLY BILLED	10 55%	24 32%	11 32%	53 37%
COSTS NOT BILLED	10 30%	36 48%	16 47%	62 44%
INSTNS IN GROUP	33 100%	75 100%	34 100%	142 100%
---CONTROL=ALL ---SIZE=B-LARGE	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
COSTS ARE BILLED	12 36%	12 27%	1 13%	25 29%
PARTIALLY BILLED	13 39%	17 39%	1 13%	31 36%
COSTS NOT BILLED	8 24%	15 34%	6 75%	29 34%
INSTNS IN GROUP	33 100%	44 100%	8 100%	85 100%
---CONTROL=ALL ---SIZE=LARGE	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
COSTS ARE BILLED	16 38%	2 22%	0%	18 30%
PARTIALLY BILLED	19 45%	3 33%	2 22%	24 40%
COSTS NOT BILLED	7 17%	4 44%	7 78%	18 30%
INSTNS IN GROUP	42 100%	9 100%	9 100%	60 100%
---CONTROL=ALL ---SIZE=ALL	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
COSTS ARE BILLED	33 30%	34 19%	8 13%	75 21%
PARTIALLY BILLED	51 47%	67 37%	18 29%	136 39%
COSTS NOT BILLED	25 23%	78 44%	36 58%	139 40%
INSTNS IN GROUP	109 100%	179 100%	62 100%	350 100%

Table 22 (continued)
 AIS OPERATING COST RECOVERY
 Public Institutions

CONTROL-PUBLIC SIZE=SMALL	TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
COSTS ARE BILLED			3	10%		0%	3	14%
PARTIALLY BILLED			3	10%	9	36%	12	36%
COSTS NOT BILLED			9	40%	3	5%	12	50%
INSTNS IN GROUP		1	10	100%	11	100%	22	100%
CONTROL-PUBLIC SIZE=MEDIUM	TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
COSTS ARE BILLED	3	17%	9	16%	7	21%	19	10%
PARTIALLY BILLED	9	50%	20	36%	11	30%	40	37%
COSTS NOT BILLED	6	33%	27	48%	15	45%	40	45%
INSTNS IN GROUP	18	100%	56	100%	33	100%	107	100%
CONTROL-PUBLIC SIZE=M-LARGE	TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
COSTS ARE BILLED	8	32%	12	29%	1	13%	21	20%
PARTIALLY BILLED	10	40%	16	39%	1	13%	27	36%
COSTS NOT BILLED	7	28%	13	32%	6	75%	26	35%
INSTNS IN GROUP	25	100%	41	100%	8	100%	74	100%
CONTROL-PUBLIC SIZE=LARGE	TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
COSTS ARE BILLED	15	30%	2	25%		0%	17	30%
PARTIALLY BILLED	18	45%	2	25%	2	22%	22	39%
COSTS NOT BILLED	7	18%	9	50%	7	78%	18	32%
INSTNS IN GROUP	40	100%	13	100%	9	100%	57	100%
CONTROL-PUBLIC SIZE=ALL	TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
COSTS ARE BILLED	26	31%	26	23%	8	13%	60	23%
PARTIALLY BILLED	38	45%	41	36%	18	30%	97	37%
COSTS NOT BILLED	20	24%	40	42%	35	57%	103	40%
INSTNS IN GROUP	84	100%	115	100%	61	100%	260	100%

Table 22 (continued)
AIS OPERATING COST RECOVERY
Private Institutions

CONTROL-PRIVATE SIZE=SMALL	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
COSTS ARE BILLED			2	5%			2	5%
PARTIALLY BILLED			20	49%			20	49%
COSTS NOT BILLED			19	46%			19	46%
INSTNS IN GROUP			41	100%			41	100%
CONTROL-PRIVATE SIZE=MEDIUM	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
COSTS ARE BILLED	2	13%	6	32%			8	23%
PARTIALLY BILLED	9	60%	9	21%			13	37%
COSTS NOT BILLED	4	27%	9	42%			14	40%
INSTNS IN GROUP	15	100%	19	100%	1		35	100%
CONTROL-PRIVATE SIZE= LARGE	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
COSTS ARE BILLED	4	50%					4	36%
PARTIALLY BILLED	3	38%					4	36%
COSTS NOT BILLED	1	13%					3	27%
INSTNS IN GROUP	8	100%	3				11	100%
CONTROL-PRIVATE SIZE= LARGE	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
COSTS ARE BILLED								
PARTIALLY BILLED								
COSTS NOT BILLED								
INSTNS IN GROUP	2		1				3	
CONTROL-PRIVATE SIZE=ALL	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
COSTS ARE BILLED	7	26%	8	13%			15	17%
PARTIALLY BILLED	13	52%	26	41%			39	43%
COSTS NOT BILLED	5	20%	30	97%			36	40%
INSTNS IN GROUP	25	100%	64	100%	1		90	100%

Table 23
AIS OPERATING COST RECOVERY
All Separate Administrative Installations

--CONTROL=ALL ---SIZE=SMALL	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
COSTS ARE BILLED		3 17%		3 15%
PARTIALLY BILLED		7 39%		8 40%
COSTS NOT BILLED		8 44%		9 45%
INSTNS IN GROUP	1	18 100%	1	20 100%
--CONTROL=ALL ---SIZE=MEDIUM	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
COSTS ARE BILLED	1 7%	3 17%		7 19%
PARTIALLY BILLED	8 57%	6 33%		15 42%
COSTS NOT BILLED	5 36%	9 50%		14 39%
INSTNS IN GROUP	14 100%	18 100%	4	36 100%
--CONTROL=ALL ---SIZE=B-LARGE	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
COSTS ARE BILLED	4 33%	7 44%		11 38%
PARTIALLY BILLED	5 42%	3 19%		8 28%
COSTS NOT BILLED	3 25%	6 38%		10 34%
INSTNS IN GROUP	12 100%	16 100%	1	29 100%
--CONTROL=ALL ---SIZE=LARGE	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
COSTS ARE BILLED	7 39%	1 20%		8 35%
PARTIALLY BILLED	10 56%	1 20%		11 48%
COSTS NOT BILLED	1 6%	3 60%		4 17%
INSTNS IN GROUP	18 100%	5 100%		23 100%
--CONTROL=ALL ---SIZE=ALL	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
COSTS ARE BILLED	12 27%	14 25%	1 50%	27 27%
PARTIALLY BILLED	24 53%	17 30%	1 17%	42 39%
COSTS NOT BILLED	9 20%	26 46%	2 33%	37 34%
INSTNS IN GROUP	45 100%	57 100%	6 100%	108 100%

Table 23 (continued)
AIS OPERATING COST RECOVERY
Separate Administrative Installations
in Public Institutions

CONTROL-PUBLIC SIZE=SMALL	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
COSTS ARE BILLED							1	17%
PARTIALLY BILLED							2	33%
COSTS NOT BILLED							3	50%
INSTNS IN GROUP	1		1		1		6	100%
CONTROL-PUBLIC SIZE=MEDIUM	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
COSTS ARE BILLED		0%	1	0%			4	16%
PARTIALLY BILLED	5	63%	5	80%			11	44%
COSTS NOT BILLED	3	38%	2	54%			10	40%
INSTNS IN GROUP	8	100%	11	100%	4		25	100%
CONTROL-PUBLIC SIZE=B-LARGE	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
COSTS ARE BILLED	1	33%	7	47%			10	40%
PARTIALLY BILLED	3	50%	1	20%			6	24%
COSTS NOT BILLED	3	33%	5	33%			9	36%
INSTNS IN GROUP	9	100%	15	100%	1		25	100%
CONTROL-PUBLIC SIZE=LARGE	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
COSTS ARE BILLED	6	100%	1	20%			7	33%
PARTIALLY BILLED	9	56%	1	20%			10	40%
COSTS NOT BILLED	1	6%	3	60%			4	17%
INSTNS IN GROUP	16	100%	5	100%			21	100%
CONTROL-PUBLIC SIZE=ALL	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
COSTS ARE BILLED	9	26%	10	27%	3	50%	22	29%
PARTIALLY BILLED	10	53%	10	27%	1	17%	29	38%
COSTS NOT BILLED	7	21%	17	46%	2	33%	26	34%
INSTNS IN GROUP	34	100%	37	100%	6	100%	77	100%

Table 23 (continued)
AIS OPERATING COST RECOVERY
Separate Administrative Installations
in Private Institutions

CONTROL-PRIVATE SIZE=SMALL	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
COSTS ARE BILLED		2 14%		2 14%
PARTIALLY BILLED		6 43%		6 43%
COSTS NOT BILLED		6 43%		6 43%
INSTNS IN GROUP		14 100%		14 100%
CONTROL-PRIVATE SIZE=MEDIUM	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
COSTS ARE BILLED	1 17%	2 40%		3 27%
PARTIALLY BILLED	3 50%	1 20%		4 36%
COSTS NOT BILLED	2 33%	2 40%		4 36%
INSTNS IN GROUP	6 100%	5 100%		11 100%
CONTROL-PRIVATE SIZE=M-LARGE	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
COSTS ARE BILLED				
PARTIALLY BILLED				
COSTS NOT BILLED				
INSTNS IN GROUP	3	1		4
CONTROL-PRIVATE SIZE=LARGE	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
COSTS ARE BILLED				
PARTIALLY BILLED				
COSTS NOT BILLED				
INSTNS IN GROUP	2			2
CONTROL-PRIVATE SIZE=ALL	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
COSTS ARE BILLED	3 27%	4 20%		7 23%
PARTIALLY BILLED	6 55%	7 35%		13 42%
COSTS NOT BILLED	2 18%	9 45%		11 35%
INSTNS IN GROUP	11 100%	20 100%		31 100%

Table 24
AIS OPERATING COST RECOVERY
 All Combined Academic/Administrative Installations

CONTROL=ALL SIZE=SMALL	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
COSTS ARE BILLED			2	6%	0	0%	2	5%
PARTIALLY BILLED			16	90%	4	90%	20	97%
COSTS NOT BILLED			15	95%	6	60%	21	99%
INSTNS IN GROUP			33	100%	10	100%	43	100%
CONTROL=ALL SIZE=MEDIUM	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
COSTS ARE BILLED	4	21%	12	21%	4	13%	20	19%
PARTIALLY BILLED	10	53%	10	32%	10	30%	30	36%
COSTS NOT BILLED	5	26%	27	97%	16	53%	48	95%
INSTNS IN GROUP	19	100%	52	100%	30	100%	106	100%
CONTROL=ALL SIZE=M-LARGE	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
COSTS ARE BILLED	0	30%	5	10%	1	14%	14	25%
PARTIALLY BILLED	0	30%	14	50%	1	14%	23	91%
COSTS NOT BILLED	5	24%	9	32%	5	71%	19	34%
INSTNS IN GROUP	21	100%	28	100%	7	100%	56	100%
CONTROL=ALL SIZE=LARGE	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
COSTS ARE BILLED	9	38%			0	0%	10	27%
PARTIALLY BILLED	9	38%			2	22%	13	35%
COSTS NOT BILLED	6	25%			7	70%	14	38%
INSTNS IN GROUP	24	100%	9		9	100%	37	100%
CONTROL=ALL SIZE=ALL	TYPE=UNIV		TYPE=4-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
COSTS ARE BILLED	21	32%	20	16%	5	9%	46	19%
PARTIALLY BILLED	27	42%	50	91%	17	30%	94	39%
COSTS NOT BILLED	16	25%	52	93%	34	61%	100	92%
INSTNS IN GROUP	64	100%	122	100%	56	100%	240	100%

Table 24 (continued)
AIS OPERATING COST RECOVERY
Combined Academic/Administrative Installations
in Public Institutions

CONTROL=PUBLIC SIZE=SMALL	TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
COSTS ARE BILLED			2	10%		0%	2	10%
PARTIALLY BILLED			2	10%	4	40%	6	60%
COSTS NOT BILLED			2	10%	6	60%	8	80%
INSTNS IN GROUP			6	100%	10	100%	16	100%
CONTROL=PUBLIC SIZE=MEDIUM	TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
COSTS ARE BILLED	3	30%	8	19%	4	14%	15	18%
PARTIALLY BILLED	4	40%	15	35%	10	34%	29	35%
COSTS NOT BILLED	3	30%	20	47%	15	52%	38	46%
INSTNS IN GROUP	10	100%	43	100%	29	100%	82	100%
CONTROL=PUBLIC SIZE=M-LARGE	TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
COSTS ARE BILLED	5	31%	5	19%	1	14%	11	22%
PARTIALLY BILLED	7	44%	13	50%	1	14%	21	43%
COSTS NOT BILLED	4	25%	8	31%	5	71%	17	35%
INSTNS IN GROUP	16	100%	26	100%	7	100%	49	100%
CONTROL=PUBLIC SIZE=LARGE	TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
COSTS ARE BILLED	9	30%				0%	10	20%
PARTIALLY BILLED	9	30%			2	22%	17	33%
COSTS NOT BILLED	6	25%			7	78%	14	39%
INSTNS IN GROUP	24	100%	3		9	100%	36	100%
CONTROL=PUBLIC SIZE=ALL	TYPE=UNIV COUNT PCT		TYPE=4-YR COUNT PCT		TYPE=2-YR COUNT PCT		TYPE=ALL COUNT PCT	
COSTS ARE BILLED	17	34%	16	21%	5	9%	38	21%
PARTIALLY BILLED	20	40%	31	40%	17	30%	68	37%
COSTS NOT BILLED	13	26%	31	40%	33	60%	77	42%
INSTNS IN GROUP	50	100%	78	100%	55	100%	183	100%

Table 24 (continued)
AIS OPERATING COST RECOVERY
Combined Academic/Administrative Installations
in Private Institutions

CONTROL-PRIVATE SIZE-MEDIUM	TYPE=UNIV		TYPE=9-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
COSTS ARE BILLED			95				82	
PARTIALLY BILLED			19	50%			19	50%
COSTS NOT BILLED			11	90%			11	90%
INSTNS IN GROUP			27	100%			27	100%
CONTROL-PRIVATE SIZE-MEDIUM	TYPE=UNIV		TYPE=9-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
COSTS ARE BILLED	3	33%	9	29%			5	21%
PARTIALLY BILLED	6	67%	3	21%			9	36%
COSTS NOT BILLED	2	22%	2	50%			10	42%
INSTNS IN GROUP	9	100%	19	100%	1		29	100%
CONTROL-PRIVATE SIZE-LARGE	TYPE=UNIV		TYPE=9-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
COSTS ARE BILLED	3	60%					3	43%
PARTIALLY BILLED	1	20%					2	29%
COSTS NOT BILLED	1	20%					2	27%
INSTNS IN GROUP	5	100%	2				7	100%
CONTROL-PRIVATE SIZE-LARGE	TYPE=UNIV		TYPE=9-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
COSTS ARE BILLED								
PARTIALLY BILLED								
COSTS NOT BILLED								
INSTNS IN GROUP			1				1	
CONTROL-PRIVATE SIZE-ALL	TYPE=UNIV		TYPE=9-YR		TYPE=2-YR		TYPE=ALL	
	COUNT	PCT	COUNT	PCT	COUNT	PCT	COUNT	PCT
COSTS ARE BILLED	9	29%	9	9%			8	14%
PARTIALLY BILLED	7	50%	19	43%			26	44%
COSTS NOT BILLED	3	21%	21	46%			25	42%
INSTNS IN GROUP	19	100%	49	100%	1		59	100%

Chapter 5

Computer Hardware and Communications

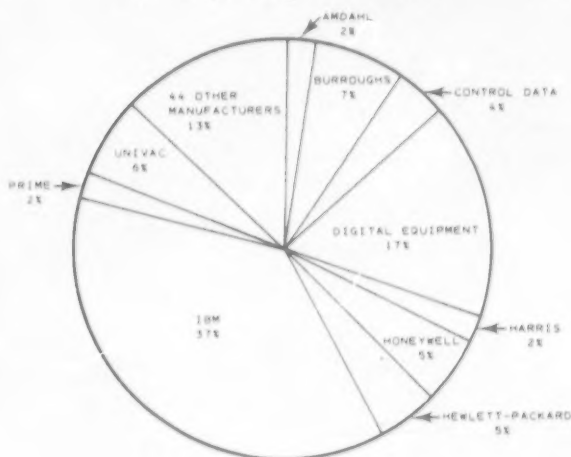
Computer hardware in colleges and universities is too extensive, varied, and changes far too rapidly to allow for a detailed inventory of the full configuration for every installation at every member institution. The 1980 Profile did, however, provide each responding institution space to list the manufacturer and model number for five different computers, presumably the major central processing units on which administrative information systems are processed. The 350 responding institutions listed 582 computers, an average of 1.66 entries per institution. These entries were tabulated by manufacturer for each of the major institutional groups to provide information on which institutions are using computers from which companies. Although computer model numbers are included in the detailed entries, the analyses in this Monograph do not extend to that level.

A major caution must be noted when observing the information about computer hardware by manufacturer. These charts and graphs do not in any way purport to show "market share" for the manufacturers. Each entry was counted with equal weight for each computer. Therefore, an Apple computer, one of the smallest reported, was counted the same as an Amdahl, one of the largest reported. The proliferation of mini and microcomputers being used in some way for administrative systems prompts another caution; these data do not represent a complete inventory of all of the computers in use on any specific campus.

In this analysis, the ten computer manufacturers with ten or more entries are considered to be the leading companies and are listed individually. Those companies with fewer than ten entries are grouped into the "other" category. Figure 24 shows the distribution by manufacturer for all responding institutions. The ten companies with ten or more entries account for 87% of the entries, and 44 other companies account for the remaining 13% of the computers listed.

Figure 24

DISTRIBUTION OF COMPUTERS BY MANUFACTURER
All Responding Institutions



When this information was compared to similar data for 1,189 institutions published in 1981 by Robert E. Russell,¹¹ the distribution differed no more than 1% for any of the ten leading companies.

¹¹ Robert E. Russell, "Computer-Based Decision Support Systems in Higher Education: The Support, Development, and Impact of MIS" (Ph.D. Dissertation, University of Michigan, Ann Arbor, 1981), pp. 130-133.

To provide information on which types of computers are in use by specific types of institutions, the distribution of computers by company for each of the eleven major institutional groups is shown in Figures 25 through 35.

The distribution of computers by company between public and private institutions is very similar, with the exception that private institutions report a higher percentage of computers from other than the ten leading companies.

By institution type, universities report a higher percentage of IBM and CDC computers in use, while two-year institutions report a higher percentage of DEC, Honeywell, and Hewlett-Packard computers. Four-year institutions report a higher percentage of Burroughs and computers in the "other" category.

By institution size, large and medium-large institutions report a similar distribution of computer hardware by company, with both groups reporting over 40% IBM computers. Medium and small institutions report similar distributions, except that small institutions report a higher percentage of DEC and "other" computers.

It is interesting to note that there are no significant differences in the distribution of computers by company reported by separate administrative installations and combined academic/administrative installations.

NOTE: The following company abbreviations are used in Figures 25 through 45:

AMD	-	Amdahl Corporation
BUR	-	Burroughs Corporation
CDC	-	Control Data Corporation
DEC	-	Digital Equipment Corporation
HAR	-	Harris Corporation
HON	-	Honeywell, Incorporated
H-P	-	Hewlett-Packard Corporation
IBM	-	International Business Machines
PRM	-	Prime Computer, Incorporated
UNV	-	Sperry-Univac Corporation
OTH	-	Other

Figure 25

COMPUTERS REPORTED BY MANUFACTURER

Public Institutions

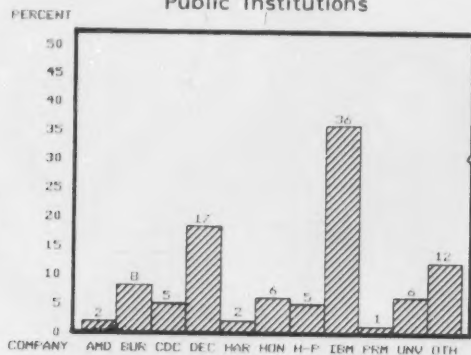


Figure 26

COMPUTERS REPORTED BY MANUFACTURER

Private Institutions

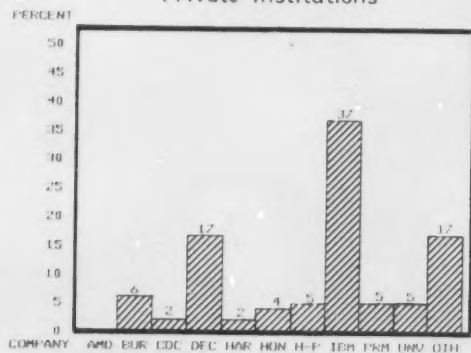


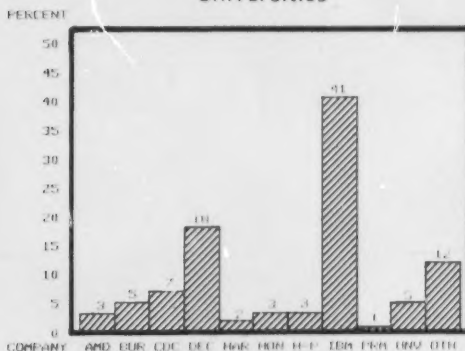
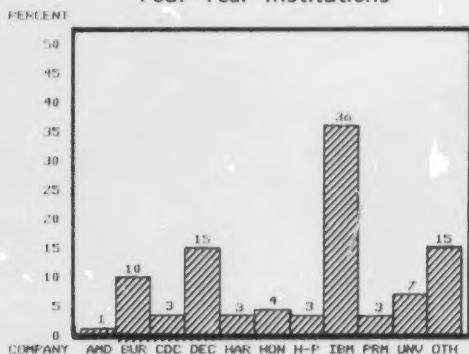
Figure 27**COMPUTERS REPORTED BY MANUFACTURER
Universities**Figure 28**COMPUTERS REPORTED BY MANUFACTURER
Four-Year Institutions**

Figure 29

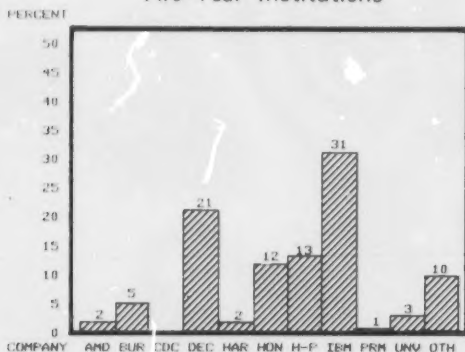
COMPUTERS REPORTED BY MANUFACTURER
Two-Year Institutions

Figure 30

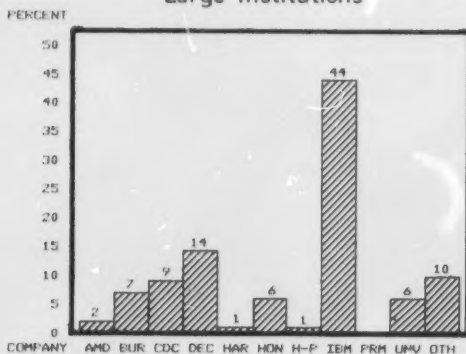
COMPUTERS REPORTED BY MANUFACTURER
Large Institutions

Figure 31

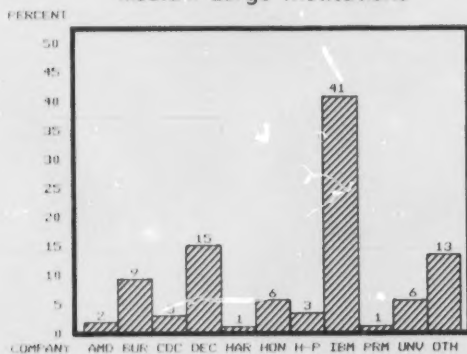
COMPUTERS REPORTED BY MANUFACTURER
Medium-Large Institutions

Figure 32

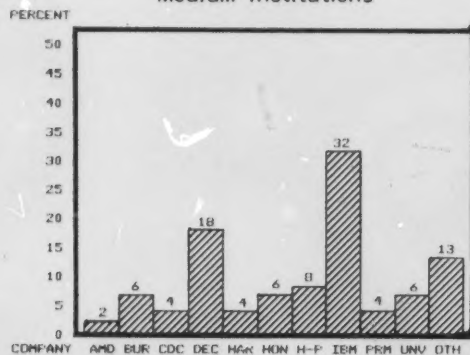
COMPUTERS REPORTED BY MANUFACTURER
Medium Institutions

Figure 33

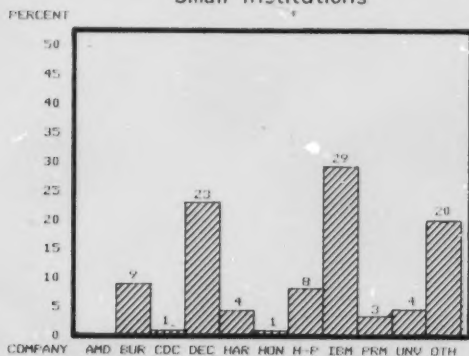
COMPUTERS REPORTED BY MANUFACTURER
Small Institutions

Figure 34

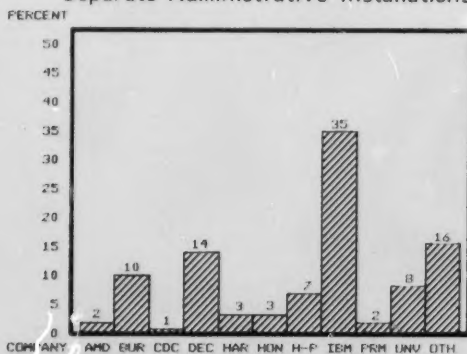
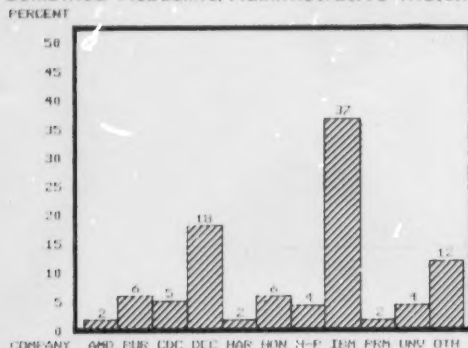
COMPUTERS REPORTED BY MANUFACTURER
Separate Administrative Installations

Figure 35

COMPUTERS REPORTED BY MANUFACTURER
Combined Academic/Administrative Installations

Observing the percent of computers reported by company for each of the major institutional groups provides information that may be of use to institutions in the process of considering a computer from a specific company. Again, it should be recognized that this information is summarized from only 350 responding institutions reporting only 582 computers in use for administrative information systems. The following comments, however, are relevant to the computers reported on the Profile.

Figures 36 through 45 show to what extent each of the major institutional groups uses the computers from each of the ten manufacturers with ten or more computers reported on the Profile, and Figure 46 shows a single distribution for the computers from the other 44 manufacturers.

Amdahl computers are fairly evenly reported by all institutional groups except private and small institutions.

Burroughs computers are reported most often by four-year institutions and by separate administrative installations.

Control Data computers are reported most often by large institutions, universities, and by combined academic/administrative installations.

Digital Equipment computers are reported most often by two-year institutions and by small institutions.

Harris computers are reported more by medium and small institutions than by large and medium-large institutions.

Honeywell computers are reported by significantly more two-year institutions than any other major institutional group, and are least reported by small institutions.

Hewlett-Packard computers are also reported by a significantly larger percentage of two-year institutions, and are least reported by large institutions.

IBM computers are reported at a fairly high percentage of all institutions. Over 40% of the universities, as well as the large and medium-large institutional groups, report the use of IBM computers. Small institutions report the use of IBM computers at a lower level than any other major institutional group.

Prime computers are reported most often by private institutions and medium institutions.

Univac computers are reported fairly evenly by all major institutional groups except two-year institutions, which report the lowest level. Separate administrative installations report twice as many Univac computers in use as do combined academic/administrative installations.

The 44 companies included in the "other" category are reported at the highest level by small institutions and at the lowest level by two-year and large institutions.

Figure 36
AMDAHL COMPUTERS REPORTED
By Major Institutional Groups

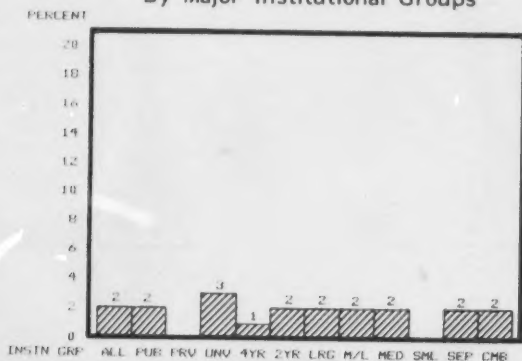


Figure 37
BURROUGHS COMPUTERS REPORTED
By Major Institutional Groups

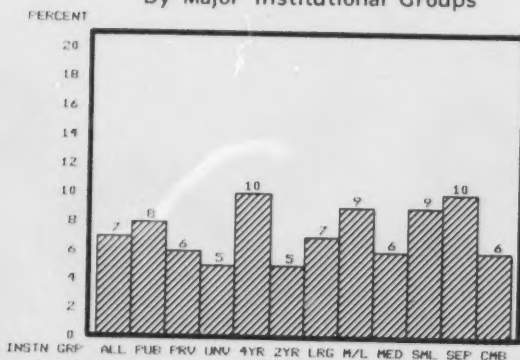


Figure 38

CONTROL DATA COMPUTERS REPORTED By Major Institutional Groups

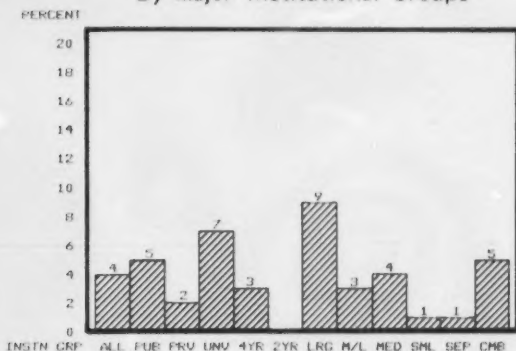


Figure 39

DIGITAL EQUIPMENT COMPUTERS REPORTED By Major Institutional Groups

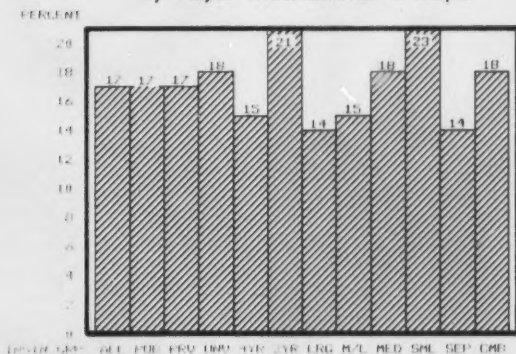


Figure 40
HARRIS COMPUTERS REPORTED
By Major Institutional Groups

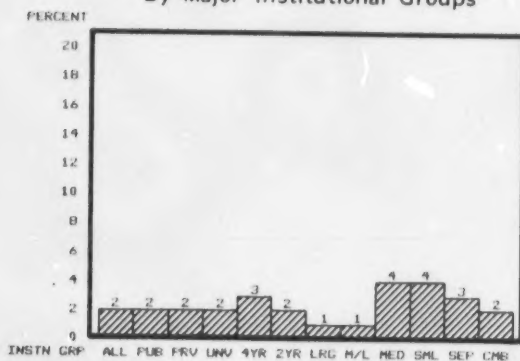


Figure 41
HONEYWELL COMPUTERS REPORTED
By Major Institutional Groups

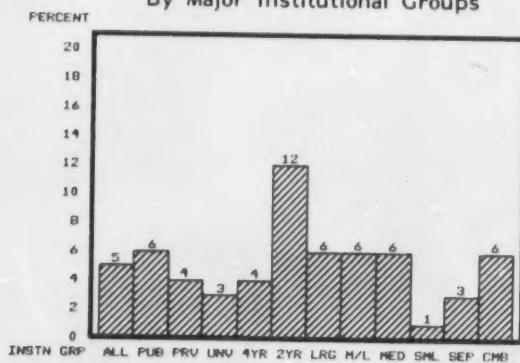


Figure 42

HEWLETT-PACKARD COMPUTERS REPORTED By Major Institutional Groups

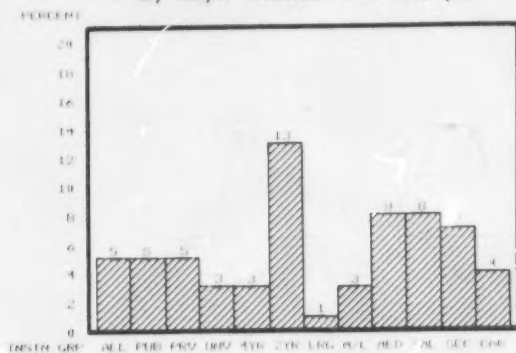


Figure 43

IBM COMPUTERS REPORTED By Major Institutional Groups

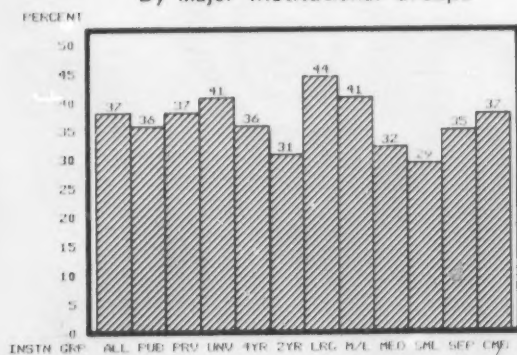


Figure 44

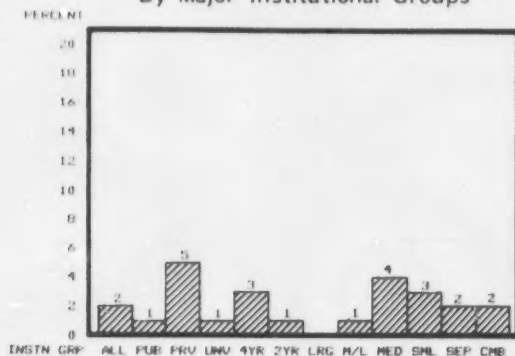
PRIME COMPUTERS REPORTED
By Major Institutional Groups

Figure 45

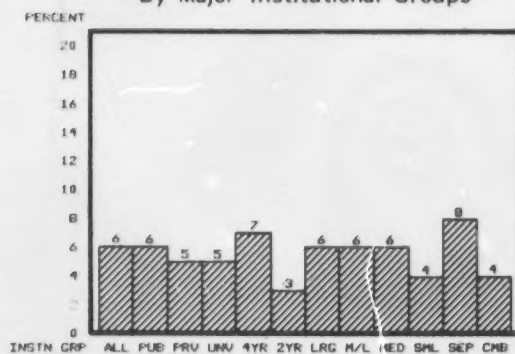
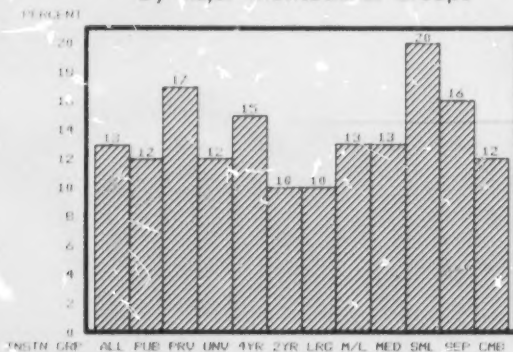
UNIVAC COMPUTERS REPORTED
By Major Institutional Groups

Figure 46

OTHER COMPUTERS REPORTED
By Major Institutional Groups

The increasing use of mini and microcomputers by colleges and universities may make it both impractical and unimportant to maintain a national database of all computers on all campuses. It is important, however, for institutions to maintain an inventory of all computers on their individual campuses. Most institutions have established policies for computer acquisition which are monitored through their purchasing offices, and each acquisition is reviewed in advance by an appropriate office or committee.

Fortunately, most of the entries on the 1980 Profile were the major computers in use for administrative information systems at the responding institutions. The average number of computer systems on the 1980 Profile was

determined for each institutional group. These averages were:

All responding institutions		1.66
By institutional control	Public	1.74
	Private	1.43
By institutional type	Universities	1.73
	Four-Year	1.64
	Two-Year	1.61
By institutional size	Large	2.10
	Medium-Large	1.74
	Medium	1.61
	Small	1.27
By organization type	Separate	1.65
	Combined	1.67

This information shows that the average number of computers reported is a function of both institutional complexity and size. The difference between public and private institutions is most likely explained by the size of these institutions; public institutions on the average are significantly larger than the private institutions. It is surprising, though, that there is so little difference between the average number of computers reported by separate and combined installations.

Communications

A surprising 87% of all responding institutions report the use of interactive computing, with only the small and the private institutional groups reporting less than 80%. Even in those two groups, 73% and 77% report the use of interactive computing. This information does agree, however, with the increased percentage of online administrative applications discussed in Chapter 6.

The percentage of institutions in each group reporting the use of interactive computing is shown graphically in Figure 47. From this graph it can be seen that a higher percentage of the public institutions report interactive computing than do the private institutions (90% vs. 77%) and a higher percentage of the combined academic/administrative installations report interactive computing than the separate administrative installations (94% vs. 83%), though both types make significant use of interactive computing.

Figure 48 shows that the average number of interactive devices follows the same trends as the percentage of institutions reporting interactive computing, except that the two-year institutions report a higher average number than the four-year institutions (46 vs. 36). This is probably due to the average size of the two-year institutions being larger than the average size of the four-year institutions, since the average number of interactive devices seems clearly dependent upon institutional size. In any case, an average of 20 interactive devices for even the small institutions is higher than one would expect.

Figure 47

INSTITUTIONS REPORTING INTERACTIVE COMPUTING

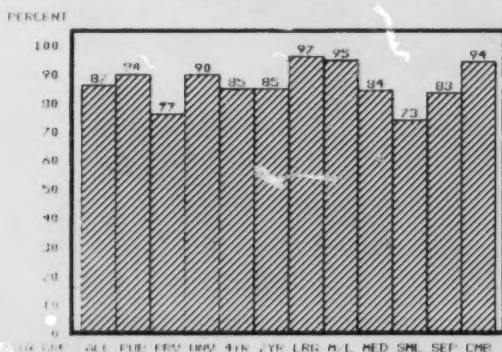
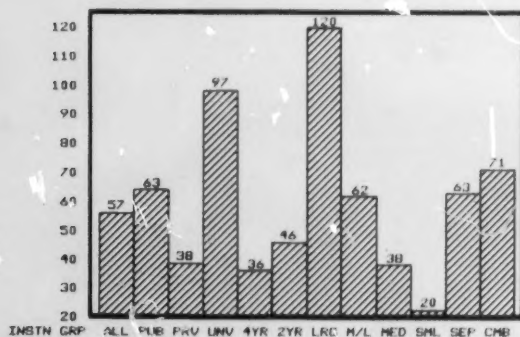


Figure 48
AVERAGE NUMBER OF INTERACTIVE DEVICES



The percentage of institutions reporting remote-job-entry sites is also quite high (51%), and the data shown in Figure 49 follow the same pattern by institutional group as the data on interactive computing, with the exception that a slightly higher percentage of the separate administrative installations report remote-job-entry sites than the combined academic/administrative installations (53% vs. 50%). The data on the average number of remote-job-entry sites shown in Figure 50 follow the pattern of the percentage of institutions reporting remote-job-entry sites, with the exception of the data by institutional type. The two-year institutions report the highest average number of remote-job-entry sites, and the universities and four-year institutions report an equal average number.

Detailed summaries of the responses to the Communications question on the 1980 Profile are shown in Tables 25, 26, and 27.

Figure 49

INSTITUTIONS REPORTING REMOTE-JOB-ENTRY

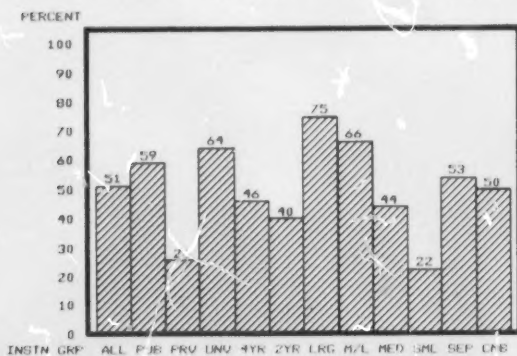


Figure 50

AVERAGE NUMBER OF REMOTE-JOB-ENTRY SITES

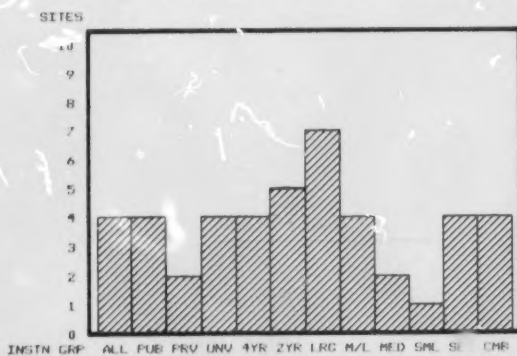


Table 25
AIS COMMUNICATIONS SUMMARY
All Responding Institutions

--CONTROL=ALL ----SIZE=SMALL	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)		37 73%	31 73%	68 73%
RJE (INSTITUTIONS) SITES (AVERAGE)		10 20%	3 27%	14 22%
INSTNS IN GROUP	1	51	11	63
--CONTROL=ALL ----SIZE=MEDIUM	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	25 76%	64 85%	30 80%	119 84%
RJE (INSTITUTIONS) SITES (AVERAGE)	47	39	30	38
	14 42%	37 49%	11 32%	62 44%
	2	2	2	2
INSTNS IN GROUP	33	75	34	142
--CONTROL=ALL ----SIZE=M-LARGE	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	31 94%	44 100%	6 75%	81 95%
RJE (INSTITUTIONS) SITES (AVERAGE)	97	38	54	62
	23 70%	29 66%	4 50%	56 66%
	3	4	2	4
INSTNS IN GROUP	33	44	8	85
--CONTROL=ALL ----SIZE=LARGE	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	4 8%	8 89%	9 100%	58 97%
RJE (INSTITUTIONS) SITES (AVERAGE)	129	88	106	120
	32 76%	6 67%	7 78%	45 73%
	6	11	12	7
INSTNS IN GROUP	42	9	9	60
--CONTROL=ALL ----SIZE=ALL	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	98 90%	153 85%	53 85%	304 87%
RJE (INSTITUTIONS) SITES (AVERAGE)	97	36	46	57
	70 64%	82 46%	25 40%	177 51%
	4	4	5	4
INSTNS IN GROUP	109	179	62	350

Table 25 (continued)
AIS COMMUNICATIONS SUMMARY
Public Institutions

CONTROL=PUBLIC SIZE=SMALL	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)		9 90% 23	8 73% 38	19 82% 28
RJE (INSTITUTIONS) SITES (AVERAGE)		6 60% 2	3 27% 1	10 45% 1
INSTNS IN GROUP	1	10	11	22
CONTROL=PUBLIC SIZE=MEDIUM	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	13 72% 65	49 88% 32	29 88% 30	91 85% 36
RJE (INSTITUTIONS) SITES (AVERAGE)	9 50% 2	34 61% 2	10 30% 2	53 50% 2
INSTNS IN GROUP	18	56	33	107
CONTROL=PUBLIC SIZE=M-LARGE	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	24 96% 98	41 100% 40	6 75% 54	71 96% 60
RJE (INSTITUTIONS) SITES (AVERAGE)	18 72% 3	26 63% 5	4 50% 2	48 65% 4
INSTNS IN GROUP		41	8	74
CONTROL=PUBLIC SIZE=LARGE	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	39 98% 131	7 88% 98	9 100% 146	55 96% 123
RJE (INSTITUTIONS) SITES (AVERAGE)	30 75% 6	6 75% 11	7 78% 12	43 75% 8
INSTNS IN GROUP	40	8	9	57
CONTROL=PUBLIC SIZE=ALL	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	77 91% 108	106 92% 39	52 85% 46	235 98% 63
RJE (INSTITUTIONS) SITES (AVERAGE)	58 69% 4	72 63% 4	24 39% 5	154 59% 4
INSTNS IN GROUP	84	115	61	260

Table 25 (continued)
AIS COMMUNICATIONS SUMMARY
Private Institutions

--CONTROL=PRIVATE ---SIZE=SMALL	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)		28 88%		28 88%
		15		15
RJE (INSTITUTIONS) SITES (AVERAGE)		4 10%		4 10%
		1		1
INSTNS IN GROUP		41		41
--CONTROL=PRIVATE ---SIZE=MEDIUM	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	12 88%	15 79%		28 88%
	27	61		95
RJE (INSTITUTIONS) SITES (AVERAGE)	5 33%	3 16%		9 26%
	1	2		1
INSTNS IN GROUP	15	19	1	35
--CONTROL=PRIVATE ---SIZE=M-LARGE	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	7 98%			10 91%
	95			73
RJE (INSTITUTIONS) SITES (AVERAGE)	5 63%			8 73%
	3			3
INSTNS IN GROUP	8	3		11
--CONTROL=PRIVATE ---SIZE=LARGE	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)				
RJE (INSTITUTIONS) SITES (AVERAGE)				
INSTNS IN GROUP	2	1		3
--CONTROL=PRIVATE ---SIZE=ALL	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	21 84%	47 73%		69 77%
	56	30		38
RJE (INSTITUTIONS) SITES (AVERAGE)	1 48%	10 16%		23 26%
	2	1		2
INSTNS IN GROUP	25	64	1	90

Table 26

AIS COMMUNICATIONS SUMMARY
All Separate Administrative Installations

CONTROL=ALL SIZE=SMALL	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)		10 58%		12 60%
		17		20
RJE (INSTITUTIONS) SITES (AVERAGE)		4 22%		6 30%
		1		1
INSTNS IN GROUP	1	10	1	20
CONTROL=ALL SIZE=MEDIUM	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	10 71%	15 83%		29 81%
	50	37		41
RJE (INSTITUTIONS) SITES (AVERAGE)	8 57%	9 50%		18 50%
	2	1		2
INSTNS IN GROUP	14	18	4	36
CONTROL=ALL SIZE=M-LARGE	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	11 92%	14 100%		28 97%
	83	29		49
RJE (INSTITUTIONS) SITES (AVERAGE)	8 67%	9 56%		17 59%
	4	2		3
INSTNS IN GROUP	12	16	1	29
CONTROL=ALL SIZE=LARGE	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	17 94%	4 80%		21 91%
	197	81		134
RJE (INSTITUTIONS) SITES (AVERAGE)	13 72%	3 60%		16 70%
	5	21		8
INSTNS IN GROUP	18	5		23
CONTROL=ALL SIZE=ALL	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	39 87%	45 79%	4 100%	90 83%
	102	33	26	63
RJE (INSTITUTIONS) SITES (AVERAGE)	70 67%	25 44%	2 33%	57 53%
	4	4	2	4
INSTNS IN GROUP	45	57	6	108

Table 26 (continued)
AIS COMMUNICATIONS SUMMARY
Separate Administrative Installations
in Public Institutions

CONTROL-PUBLIC SIZE-SMALL	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)				6 100% 29
RJE (INSTITUTIONS) SITES (AVERAGE)				3 50% 1
INSTNS IN GROUP	1	4	1	6
CONTROL-PUBLIC SIZE-MEDIUM	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	6 75% 75	12 92% 44		22 88% 50
RJE (INSTITUTIONS) SITES (AVERAGE)	6 75% 3	7 54% 1		14 56% 2
INSTNS IN GROUP	8	13	4	25
CONTROL-PUBLIC SIZE-M-LARGE	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	9 100% 87	15 100% 29		25 100% 49
RJE (INSTITUTIONS) SITES (AVERAGE)	7 78% 4	8 53% 2		15 60% 3
INSTNS IN GROUP	9	15	1	25
CONTROL-PUBLIC SIZE-LARGE	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	15 94% 155	4 8% 81		19 90% 139
RJE (INSTITUTIONS) SITES (AVERAGE)	11 69% 6	3 60% 21		14 67% 9
INSTNS IN GROUP	16	5		21
CONTROL-PUBLIC SIZE-ALL	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	31 91% 116	35 95% 40	4 100% 26	72 94% 71
RJE (INSTITUTIONS) SITES (AVERAGE)	25 74% 4	19 51% 5	2 33% 2	46 60% 4
INSTNS IN GROUP	34	37	6	77

Table 26 (continued)
AIS COMMUNICATIONS SUMMARY
Separate Administrative Installations
in Private Institutions

---CONTROL=PRIVATE ---SIZE=SMALL	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)		6 43%		6 43%
		11		11
RJE (INSTITUTIONS) SITES (AVERAGE)		3 21%		3 21%
		1		1
INSTNS IN GROUP		14		14
---CONTROL=PRIVATE ---SIZE=MEDIUM	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	4 67%	3 60%		7 64%
	14	9		12
RJE (INSTITUTIONS) SITES (AVERAGE)	2 33%	2 40%		4 36%
	2	2		2
INSTNS IN GROUP	6	5		11
---CONTROL=PRIVATE ---SIZE=M-LARGE	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)				
RJE (INSTITUTIONS) SITES (AVERAGE)				
INSTNS IN GROUP	3	1		4
---CONTROL=PRIVATE ---SIZE=LARGE	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)				
RJE (INSTITUTIONS) SITES (AVERAGE)				
INSTNS IN GROUP	2			2
---CONTROL=PRIVATE ---SIZE=ALL	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	8 70%	10 50%		18 50%
	96	12		27
RJE (INSTITUTIONS) SITES (AVERAGE)	5 45%	6 30%		11 35%
	2	1		1
INSTNS IN GROUP	11	20		31

Table 27
AIS COMMUNICATIONS SUMMARY
All Combined Academic/Administrative Installations

--CONTROL=ALL ----SIZE=SMALL	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)		27 82%	7 70%	34 79%
RJE (INSTITUTIONS) SITES (AVERAGE)		6 18%	2 20%	8 19%
INSTNS IN GROUP		33	10	43
--CONTROL=ALL ----SIZE=MEDIUM	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	15 7%	49 86%	26 87%	90 85%
RJE (INSTITUTIONS) SITES (AVERAGE)	6 32%	28 49%	10 33%	44 42%
INSTNS IN GROUP	19	57	30	106
--CONTROL=ALL ----SIZE=M-LARGE	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	20 95%	28 100%	5 71%	53 95%
RJE (INSTITUTIONS) SITES (AVERAGE)	15 71%	20 71%	4 57%	39 70%
INSTNS IN GROUP	21	28	7	56
--CONTROL=ALL ----SIZE=LARGE	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	24 100%		9 100%	37 100%
RJE (INSTITUTIONS) SITES (AVERAGE)	19 79%		7 78%	29 78%
INSTNS IN GROUP	24	4	9	37
--CONTROL=ALL ----SIZE=ALL	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	59 92%	108 89%	47 84%	214 88%
RJE (INSTITUTIONS) SITES (AVERAGE)	40 63%	57 47%	23 41%	120 50%
INSTNS IN GROUP	64	122	56	242

Table 27 (continued)

AIS COMMUNICATIONS SUMMARY
Combined Academic/Administrative Installations
in Public Institutions

CONTROL-PUBLIC SIZE-SMALL	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)		5 83%	31 70%	12 25%
		21	4	27
RJE (INSTITUTIONS) SITES (AVERAGE)		5 83%	2 20%	7 44%
		2	1	2
INSTNS IN GROUP		6	10	16
CONTROL-PUBLIC SIZE-MEDIUM	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	7 70%	37 86%	25 86%	69 84%
	57	20	30	32
RJE (INSTITUTIONS) SITES (AVERAGE)	3 30%	27 63%	9 31%	39 48%
	1	3	2	2
INSTNS IN GROUP	10	93	29	92
CONTROL-PUBLIC SIZE-M-LARGE	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	15 94%	26 100%	5 71%	46 94%
	104	46	64	67
RJE (INSTITUTIONS) SITES (AVERAGE)	11 69%	18 69%	4 57%	33 67%
	2	6	2	4
INSTNS IN GROUP	16	26	7	49
CONTROL-PUBLIC SIZE-LARGE	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	24 100%		9 100%	36 100%
	116		106	114
RJE (INSTITUTIONS) SITES (AVERAGE)	19 79%		7 78%	29 81%
	6		12	7
INSTNS IN GROUP	24	3	9	36
CONTROL-PUBLIC SIZE-ALL	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	46 92%	71 91%	46 84%	163 99%
	103	30	49	59
RJE (INSTITUTIONS) SITES (AVERAGE)	33 66%	53 68%	22 40%	108 59%
	4	4	5	4
INSTNS IN GROUP	50	78	55	183

Table 27 (continued)
AIS COMMUNICATIONS SUMMARY
 Combined Academic/Administrative Installations
 in Private Institutions

—CONTROL=PRIVATE —SIZE=SMALL	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)		22 81%		22 81%
		17		17
RJE (INSTITUTIONS) SITES (AVERAGE)		1 4%		1 4%
INSTNS IN GROUP		27		27
—CONTROL=PRIVATE —SIZE=MEDIUM	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	8 89%	12 86%		21 88%
	33	75		56
RJE (INSTITUTIONS) SITES (AVERAGE)	3 33%	1 7%		5 21%
	1	2		1
INSTNS IN GROUP	9	14	1	24
—CONTROL=PRIVATE —SIZE=M-LARGE	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	5 100%			7 100%
	108			82
RJE (INSTITUTIONS) SITES (AVERAGE)	4 80%			6 86%
	3			3
INSTNS IN GROUP	5	2		7
—CONTROL=PRIVATE —SIZE=LARGE	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)				
RJE (INSTITUTIONS) SITES (AVERAGE)				
INSTNS IN GROUP		1		1
—CONTROL=PRIVATE —SIZE=ALL	TYPE=UNIV COUNT PCT	TYPE=4-YR COUNT PCT	TYPE=2-YR COUNT PCT	TYPE=ALL COUNT PCT
INTERACTIVE (INSTNS) DEVICES (AVERAGE)	13 93%	37 84%		51 86%
	62	35		42
RJE (INSTITUTIONS) SITES (AVERAGE)	7 50%	4 9%		12 20%
	2	2		2
INSTNS IN GROUP	14	44	1	59

Chapter 6 Software

One of the primary missions of CAUSE is the exchange of information concerning computer systems and programs used for administrative information systems in colleges and universities. To further this mission, the CAUSE National Database includes information on both proprietary and application software in use by member institutions. This Chapter includes summaries that will provide general information about the major proprietary packages and trends in each application area. More detailed information in this area is available from the CAUSE National Office.

Proprietary Software

The 1980 Profile provided for ten entries of proprietary software packages with no specific categories. All of the proprietary software entries made by all of the responding institutions were tabulated by name to provide the information in this Chapter.

The fact that the 1980 Profile did not request entries in any specific categories made the information difficult to analyze; however, the rudimentary analysis made does provide some interesting information. Because of the wide range of responses, no extensive effort was made to verify the package name or company for all of the entries; however, most of the entries were checked with industry information sources.

There were 1,169 entries made by 263 responding institutions for an average of 4.44 proprietary software packages reported by each institution. Seventy-five percent of the 350 responding institutions reported at least one proprietary software package in use, and 25% reported none.

A tabulation of the 1,169 proprietary software entries into three major package categories indicates that 17% were administrative application systems, 10% were database or file management systems, and 73% were utility programs, statistical packages, communication controllers, programming languages, text editors, report writers or similar packages. This distribution is shown graphically in Figure 51.

Figure 51
PROPRIETARY SOFTWARE BY CATEGORY



Proprietary software was reported by 76% of the public institutions and 72% of the private institutions. By institutional type, 85% of the universities and 76% of the two-year institutions reported at least one proprietary software package in use, while the four-year institutions reported the fewest uses of proprietary software (69%). Separate administrative installations are slightly less likely

to use proprietary software (72%) than are combined academic/administrative installations (76%). In all cases, though, a majority of the responding institutions reported the use of proprietary software. Some institutions attached lengthy lists of proprietary software packages, so this section will become more important in future Profiles.

Separate lists were made of the 42 packages that were listed by five or more institutions, and these lists are included in this Chapter for general information. The number of entries for each package does not provide any indication of the full number of users of the package, it only indicates the number of institutions responding to the 1980 Profile who listed that package as being in use. The three lists follow:

<u>Application Packages (listed by company)</u>	<u>Entries</u>
Information Associates:	
Financial Accounting System	30
Billing Receivables System	13
Student Records System	11
Accounts Payable System	7
Payroll-Personnel System	6
Integral Systems, Incorporated:	
Payroll-Personnel System	13
Systems & Computer Technology Corporation:	
Student Information System	8
The POISE Company:	
People Oriented Information Systems for Education	6
Digital Equipment Corporation:	
WISE College Administrative System	5
Miscellaneous application packages	<u>24</u>
Total Application Package Entries	123

Database & File Management Packages

MARK-IV - Informatics, Incorporated	43
IMS - Information Management System - IBM	23
TOTAL - Cincom Systems, Incorporated	20
IDMS - Integrated Data Management System Cullinane Corporation	8
ADABAS - Software ag	7
DMS-II - Burroughs Corporation	10
IMAGE - Hewlett-Packard, Incorporated	6
System 1022 - Digital Equipment Corporation	6
Miscellaneous database & file mgmt packages	70
 Total Database & File Mgmt Package Entries	 193

Utility Packages & others:

SPSS - Statistical Package	69
CICS - Customer Information Control System	54
SYNCSORT - Sort Utility	28
PANVALET - Program Maintenance	26
EASYTRIEVE - Reporting Package	24
SAS - Statistical Analysis System	24
CA-SORT - Sort Utility	16
BMD - Statistical Package	15
MINITAB - Statistical Package	11
COBOL - Programming Language	10
FDR - Fast Dump Restore	10
LIBRARIAN - Program Maintenance	10
TSO - Time Sharing System	10
WATFIV - Programming Language	10
DL/1 - Data Language	9
IMSL - Fortran Subroutine Library	9
NDL - Network Definition Language	9
WATBOL - Programming Language	9
REPORTER - Reporting Package	8
SOCRATES - Online Access Language	7
CANDE - Remote-Job-Entry System	6
JOHNSON ACCOUNTING - Job Accounting	6
GPSS - General Purpose Systems Simulator	5
UCC-10 -IMS File Support	5
WORD-11 - Word-Processing Package	5
Miscellaneous utility packages	458
 Total Utility & Other Packages:	 853

While the analysis of the proprietary software section of the 1980 Profile was limited by the general nature of the question, it is interesting to see the wide range of packages in use by the responding institutions. The changes to the 1981 Profile discussed in Appendix B should provide even more insight into this area.

Administrative Applications

The Applications Section of the 1980 Profile included 144 administrative computer applications in eleven application areas. These application areas were chosen to be roughly equivalent to the appropriate sections of the NCHEMS Program Classification Structure.¹² These applications and the eleven area titles were based on the list included in the 1976 FICHE Survey¹³ with several applications added during the pilot test process. The 1980 Profile requested responding institutions to identify which of the 144 systems were in production on their campus in "Batch" and/or "Online" mode.

The 350 responding institutions reported a total of 17,853 administrative computing applications in production, for an average of 51 applications per institution. The differences in the average number of applications for the major institutional groups are as might be expected. Public institutions report a higher average than do private institutions, which is most likely explained by the fact that the responding public institutions are larger on the average than the responding private institutions. By institutional type, universities report the highest average number of applications, followed by four-year institutions, then two-year institutions. The data by institutional size follows the expected pattern, with the larger institutions reporting more systems on average than smaller institutions.

¹² Collier

¹³ Hamblen and Baird, p. XII--Form No. 4.

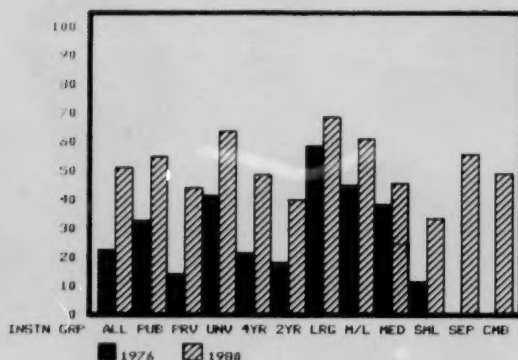
Comparing the average number of administrative computer applications for the major institutional groups as reported on the CAUSE 1980 Profile with similar data derived from the interpretive report of the 1976 FICHE Survey, the average number of applications reported generally doubled from 22 in 1976 to 51 in 1980. Private institutions reported more than three times the average number of applications in 1980 than in 1976 versus a 70% gain for public institutions. In the same period, four-year and two-year institutions more than doubled their average number of applications while universities increased their average only 50%. The institutional size groups differ slightly in enrollment between the CAUSE 1980 Profile and the 1976 FICHE Survey; however, they are close enough to allow some comparisons. Small institutions show the highest gain in average number of applications from 12 in 1976 to 33 in 1980. Medium institutions actually show a lower average number of applications in 1980 than in 1976. This is most likely related to the size category differences noted in Chapter 4.

Allowing for differences in size categories, larger institutions have added only a small number of applications on the average since 1976, whereas small institutions have increased their average number of applications significantly.

The 1976 FICHE Survey did not provide application data for separate administrative installations versus combined academic/administrative installations, so no comparisons between these two institutional groups are made.

Figure 52 presents a graphic comparison of the average number of administrative computer applications reported on the CAUSE 1980 Profile and on the 1976 FICHE Survey.

Figure 52
AVERAGE NUMBER OF ADMINISTRATIVE APPLICATIONS
1976 (FICHE) and 1980 (CAUSE)



To get a sense of the distribution of computing resources to the major administrative areas, Table 28 shows the percentage of applications reported in each area by all responding institutions, and the same distribution within each of the major institutional groups. It is interesting to note that the distribution does not change a great deal between the major institutional groups. The only number in this Table that stands out is the percentage of admissions and records applications reported by two-year institutions relative to the other institutional groups (41% versus a range of 29% to 36%), indicating a heavier emphasis on student records systems by the two-year institutions.

Table 28
APPLICATION AREA DISTRIBUTION
By Major Institutional Group

	ALL	PUB	PRO	UNV	4YR	2YR	LRG	M/L	MED	SML	SEPT	CMB
FINANCIAL MGMT	22%	21%	25%	21%	23%	20%	21%	20%	22%	25%	23%	21%
FINANCIAL AID	4%	4%	5%	4%	5%	4%	4%	5%	4%	4%	4%	4%
OTHER ADMIN	6%	5%	6%	6%	6%	4%	6%	6%	5%	6%	5%	6%
GENERAL ADMIN	7%	6%	5%	6%	7%	6%	9%	6%	7%	5%	7%	7%
ADMISS & RECS	33%	33%	33%	30%	33%	41%	29%	32%	35%	36%	30%	35%
AUXILIARY SVC	5%	5%	6%	6%	5%	2%	5%	5%	5%	5%	5%	5%
LOGISTICS	5%	6%	4%	6%	5%	6%	6%	5%	6%	4%	6%	5%
PLAN/MGMT/IR	11%	11%	10%	11%	10%	11%	12%	11%	10%	10%	11%	11%
PHYSICAL PLANT	2%	2%	1%	2%	1%	1%	2%	2%	1%	1%	2%	2%
LIBRARY	4%	4%	3%	4%	3%	4%	4%	5%	3%	3%	4%	4%
HOSPITAL	1%	1%	1%	2%	1%	0%	2%	1%	1%	1%	2%	1%

The rank order of the eleven application areas based on the number of applications reported in each area is consistent between the CAUSE 1980 Profile and the 1976 FICHE Survey. Two of the application areas, Admissions and Records and Financial Management, account for 55% of all of the applications reported, and the other nine areas account for the remaining 45%. In addition to the rank order of the eleven areas, the most and least reported application within each of the eleven areas is identified in the following paragraphs. The eleven application areas are listed in the same order as they appear in the applications section of the 1980 Profile. More specific information on the number of batch and online systems reported for each application may be found in the detailed summary by application in Table 41 at the end of this Chapter.

The Financial Management area ranked second in the number of applications reported, and accounted for 22% of the total. Departmental Expenditures was the most reported application (287), and Investment Evaluation was the least (39).

Financial Aid Administration ranked eighth of the eleven application areas and accounted for only 4% of the applications reported. Financial Aid Awards was the application reported most often (219), while Financial Aid Evaluation was the least reported (156). The relatively small difference between the most and least reported applications in this area is probably due to the fact that institutions with Financial Aid systems have typically automated most of the process at the same time.

The Other Administrative Applications area ranked fifth, accounting for 6% of the applications reported. Alumni Records was the most reported (260), and Teacher Placement was the least (23).

General Administrative Service applications ranked fourth with 7% of the total. Personnel Records was the most reported (263) and Skills Inventory was the least (27).

Admissions and Records was the area with the highest percentage of the total applications reported, accounting for 33%, and Class Rosters was the most reported (328). This application was also the most reported on the 1976 FICHE Survey. Enrollment Reporting, Enrollment Statistics, Course Add/Drop Processing, and Student Registration Processing were also reported frequently (320-326). Correspondence Course Records was the least reported application (46) in the Admissions and Records area; however, Final Exam Scheduling was close (54).

The Auxiliary Service area ranked sixth with 5% of the total applications, slightly ahead of the Logistics & Related Services area. Faculty Staff Directory was most reported (193), and Events Calendar Preparation was the least (12).

Logistics & Related Services applications ranked seventh with 5% of the total applications reported. Equipment Inventory was the most reported application in this area (188), and Crime Reporting was the least (17).

The Planning, Management, and Institutional Research area ranked third with 11% of the total applications reported. Budget Preparation was reported most often (218), and Institutional Code Control was least often reported (33).

Physical Plant was the major application area with the least number of applications reported on the CAUSE 1980 Profile, only 2%, and it was in the same position on the 1976 FICHE Survey. Within this area, Physical Plant Accounting was the most reported application (84), and Building Access Control was the least (11).

Library Systems accounted for 4% of the total number of applications reported, ranking ninth of the eleven areas. Library Serials Holdings was the most reported application (136), and Fugitive Materials indexing was the least (12).

Only a few of the responding institutions have Hospitals, so the fewest applications were reported in this area, only 1%; however, Patient Registration/Admission was the most reported (34), and Physician Support System was the least reported (2).

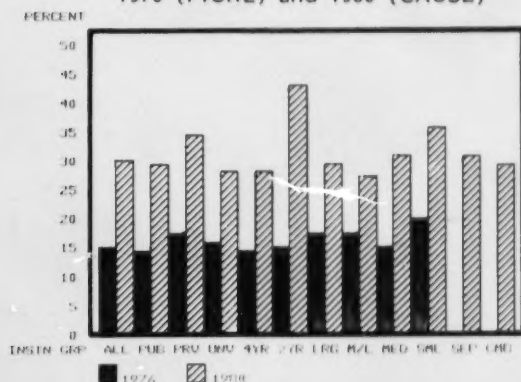
Tables 29 through 40 provide summaries by application area for each of the major institutional groups and Table 41 provides a detailed count of the number of individual administrative computer applications reported by all responding institutions. These Tables appear at the end of this Chapter.

Online Administrative Applications

The percentage of administrative computing applications reported operating in an online mode has generally doubled (from 15% to 30%) since 1976 in all institutional groups except two-year institutions, where it has tripled. Also, two-year institutions and small institutions report the highest percentage of online applications in production in 1980. It is interesting to note that separate administrative

installations report a slightly higher percentage of online applications than combined academic/administrative installations, even though more combined installations report interactive computing as well as more interactive devices. Figure 53 shows the percent of online applications reported by each major institutional group on both the 1976 FICHE Survey and the CAUSE 1980 Profile. Again, the 1976 FICHE Survey did not report application information by separate versus combined installations.

Figure 53
ONLINE ADMINISTRATIVE APPLICATIONS
1976 (FICHE) and 1980 (CAUSE)

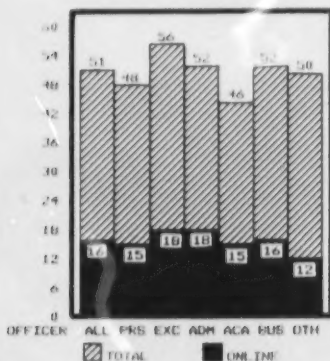


The final analysis of the data on administrative applications compares the average number of applications and the average number of online applications for installations reporting to the different administrative officers of the institutions.

According to the information shown in Figure 54, AIS organizations reporting to an executive vice president have the highest average number of administrative applications in production as well as the most online applications. AIS organizations reporting to an academic vice president have the lowest average number of applications in production, and those reporting to an administrative officer below the

vice president level have the lowest number of online applications.

Figure 54
AVERAGE NUMBER OF APPLICATIONS
By "AIS Reports To" Response



In addition to the summarized information on administrative computing applications presented in this Chapter, the CAUSE National Database also includes the detailed information on which applications are in production at each responding member campus. This information is valuable to CAUSE members searching for information about a specific application in comparable institutions, so the CAUSE National Office is exploring ways to make this information available to members using the appropriate technology.

Table 29
APPLICATION SUMMARY BY AREA
All Responding Institutions

AREA	(RESPONSE COUNTS)	BATCH	ONLINE	COMB	TOTAL
FINANCIAL MANAGEMENT		2,753	670	499	3,871
FINANCIAL AID ADMINISTRATION		490	156	113	759
OTHER ADMIN APPLICATIONS		734	170	101	1,005
GENERAL ADMINISTRATIVE SERVICE		1,006	212	107	1,325
ADMISSIONS & RECORDS		4,046	1,142	706	5,894
AUXILIARY SERVICE		681	139	82	902
LOGISTICS & RELATED SERVICES		631	189	129	949
PLANNING, MGMT & INSTNL RESRCH		1,529	253	151	1,933
PHYSICAL PLANT OPERATIONS		109	90	35	314
LIBRARY APPLICATIONS		333	254	82	669
HOSPITAL APPLICATIONS		103	95	34	232
*** TOTAL - ALL AREAS		12,495	3,370	1,988	17,853
350 INSTITUTIONS	AVERAGE	36	10	6	51

Table 30
APPLICATION SUMMARY BY AREA
Public Institutions

AREA	(RESPONSE COUNTS)	BATCH	ONLINE	COMB	TOTAL
FINANCIAL MANAGEMENT		2,067	455	388	2,910
FINANCIAL AID ADMINISTRATION		370	109	92	571
OTHER ADMIN APPLICATIONS		580	112	65	757
GENERAL ADMINISTRATIVE SERVICE		859	170	93	1,122
ADMISSIONS & RECORDS		3,212	881	581	4,594
AUXILIARY SERVICE		514	91	72	677
LOGISTICS & RELATED SERVICES		533	149	111	793
PLANNING, MGMT & INSTNL RESRCH		1,227	173	132	1,532
PHYSICAL PLANT OPERATIONS		162	71	31	264
LIBRARY APPLICATIONS		382	180	65	567
HOSPITAL APPLICATIONS		79	74	31	184
*** TOTAL - ALL AREAS		9,985	2,385	1,661	13,951
260 INSTITUTIONS	AVERAGE	38	9	6	54

Table 31
APPLICATION SUMMARY BY AREA
Private Institutions

AREA	(RESPONSE COUNTS)	BATCH	ONLINE	COMB	TOTAL
FINANCIAL MANAGEMENT		686	215	60	961
FINANCIAL AID ADMINISTRATION		120	47	21	188
OTHER ADMIN APPLICATIONS		154	58	36	248
GENERAL ADMINISTRATIVE SERVICE		147	92	14	253
ADMISSIONS & RECORDS		834	341	125	1,300
AUXILIARY SERVICE		167	40	10	225
LOGISTICS & RELATED SERVICES		78	40	18	156
PLANNING, MGMT & INSTNL RESRCH		382	88	19	491
PHYSICAL PLANT OPERATIONS		27	19	4	50
LIBRARY APPLICATIONS		31	74	17	122
HOSPITAL APPLICATIONS		24	21	3	48
*** TOTAL - ALL AREAS		2,590	905	327	3,802
90 INSTITUTIONS	AVERAGE	29	11	4	43

Table 32
APPLICATION SUMMARY BY AREA
Universities

AREA	(RESPONSE COUNTS)	BATCH	ONLINE	COMB	TOTAL
FINANCIAL MANAGEMENT		1,087	170	188	1,445
FINANCIAL AID ADMINISTRATION		179	26	64	269
OTHER ADMIN APPLICATIONS		282	45	61	388
GENERAL ADMINISTRATIVE SERVICE		423	67	41	531
ADMISSIONS & RECORDS		1,474	269	316	2,059
AUXILIARY SERVICE		295	38	53	386
LOGISTICS & RELATED SERVICES		264	64	72	400
PLANNING, MGMT & INSTNL RSCH		626	86	66	778
PHYSICAL PLANT OPERATIONS		185	41	22	248
LIBRARY APPLICATIONS		149	120	31	300
HOSPITAL APPLICATIONS		64	62	21	147
*** TOTAL - ALL AREAS		4,948	768	935	6,651
109 INSTITUTIONS	AVERAGE	45	9	9	63

Table 33
APPLICATION SUMMARY BY AREA
Four-Year Institutions

AREA	(RESPONSE COUNTS)	BATCH	ONLINE	COMB	TOTAL
FINANCIAL MANAGEMENT		1,405	358	170	1,933
FINANCIAL AID ADMINISTRATION		260	188	33	393
OTHER ADMIN APPLICATIONS		389	99	29	517
GENERAL ADMINISTRATIVE SERVICE		452	93	42	594
ADMISSIONS & RECORDS		2,104	589	235	2,928
AUXILIARY SERVICE		256	87	25	368
LOGISTICS & RELATED SERVICES		679	82	32	793
PLANNING, MGMT & INSTNL RSCH		715	122	54	891
PHYSICAL PLANT OPERATIONS		75	39	7	121
LIBRARY APPLICATIONS		154	97	32	283
HOSPITAL APPLICATIONS		39	33	13	85
*** TOTAL - ALL AREAS		6,148	1,699	679	8,526
179 INSTITUTIONS	AVERAGE	34	9	4	48

Table 34
APPLICATION SUMMARY BY AREA
Two-Year Institutions

AREA	(RESPONSE COUNTS)	BATCH	ONLINE	COMB	TOTAL
FINANCIAL MANAGEMENT		261	142	98	493
FINANCIAL AID ADMINISTRATION		51	38	16	97
OTHER ADMIN APPLICATIONS		63	26	11	100
GENERAL ADMINISTRATIVE SERVICE		131	52	17	200
ADMISSIONS & RECORDS		568	284	155	1,007
AUXILIARY SERVICE		38	14	4	56
LOGISTICS & RELATED SERVICES		68	43	25	136
PLANNING, MGMT & INSTNL RSCH		188	45	31	264
PHYSICAL PLANT OPERATIONS		9	18	6	33
LIBRARY APPLICATIONS		38	37	19	94
HOSPITAL APPLICATIONS		8	8	8	24
*** TOTAL - ALL AREAS		1,399	683	324	2,406
62 INSTITUTIONS	AVERAGE	23	11	6	40

Table 35
APPLICATION SUMMARY BY AREA
Large Institutions

AREA	(RESPONSE COUNTS)	BATCH	ONLINE	COMB	TOTAL
FINANCIAL MANAGEMENT		570	145	119	842
FINANCIAL AID ADMINISTRATION		105	10	39	162
OTHER ADMIN APPLICATIONS		170	30	24	231
GENERAL ADMINISTRATIVE SERVICE		279	95	30	349
ADMISSIONS & RECORDS		885	186	195	1,106
AUXILIARY SERVICE		150	21	32	211
LOGISTICS & RELATED SERVICES		101	30	40	251
PLANNING, MGMT & INSTNL RSCH		394	53	49	496
PHYSICAL PLANT OPERATIONS		70	10	11	97
LIBRARY APPLICATIONS		95	57	10	170
HOSPITAL APPLICATIONS		34	25	11	70
*** TOTAL - ALL AREAS		2,872	628	567	4,067
60 INSTITUTIONS	AVERAGE	40	10	9	60

Table 36
APPLICATION SUMMARY BY AREA
Medium-Large Institutions

AREA	(RESPONSE COUNTS)	BATCH	ONLINE	COMB	TOTAL
FINANCIAL MANAGEMENT		785	96	167	1,048
FINANCIAL AID ADMINISTRATION		163	32	47	242
OTHER ADMIN APPLICATIONS		226	27	92	295
GENERAL ADMINISTRATIVE SERVICE		340	45	43	428
ADMISSIONS & RECORDS		1,227	175	266	1,668
AUXILIARY SERVICE		207	20	42	269
LOGISTICS & RELATED SERVICES		102	20	51	261
PLANNING, MGMT & INSTNL RSCH		440	40	67	555
PHYSICAL PLANT OPERATIONS		53	36	19	108
LIBRARY APPLICATIONS		121	76	36	233
HOSPITAL APPLICATIONS		31	19	8	53
*** TOTAL - ALL AREAS		3,703	509	700	5,160
85 INSTITUTIONS	AVERAGE	45	7	9	61

Table 37
APPLICATION SUMMARY BY AREA
Medium Institutions

AREA	(RESPONSE COUNTS)	BATCH	ONLINE	COMB	TOTAL
FINANCIAL MANAGEMENT		1,061	277	140	1,478
FINANCIAL AID ADMINISTRATION		176	68	25	269
OTHER ADMIN APPLICATIONS		247	79	27	353
GENERAL ADMINISTRATIVE SERVICE		327	97	31	455
ADMISSIONS & RECORDS		1,539	541	214	2,294
AUXILIARY SERVICE		251	66	0	325
LOGISTICS & RELATED SERVICES		233	97	35	365
PLANNING, MGMT & INSTNL RSCH		524	110	35	669
PHYSICAL PLANT OPERATIONS		50	29	5	92
LIBRARY APPLICATIONS		92	83	21	196
HOSPITAL APPLICATIONS		24	43	12	79
*** TOTAL - ALL AREAS		4,532	1,490	553	6,575
142 INSTITUTIONS	AVERAGE	32	10	4	46

Table 38
APPLICATION SUMMARY BY AREA
Small Institutions

AREA	(RESPONSE COUNTS)	BATCH	ONLINE	COMB	TOTAL
FINANCIAL MANAGEMENT		329	152	22	503
FINANCIAL AID ADMINISTRATION		46	30	2	86
OTHER ADMIN APPLICATIONS		83	34	9	126
GENERAL ADMINISTRATIVE SERVICE		65	25	3	93
ADMISSIONS & RECORDS		475	240	31	746
AUXILIARY SERVICE		65	32	0	97
LOGISTICS & RELATED SERVICES		35	34	3	72
PLANNING, MGMT & INSTNL RSCH		163	50	0	213
PHYSICAL PLANT OPERATIONS		8	7	0	15
LIBRARY APPLICATIONS		25	30	7	70
HOSPITAL APPLICATIONS		14	13	3	30
*** TOTAL - ALL AREAS		1,300	663	80	2,051
63 INSTITUTIONS	AVERAGE	21	11	1	33

Table 39
APPLICATION SUMMARY BY AREA
Separate Administrative Installations

AREA	(RESPONSE COUNTS)	BATCH	ONLINE	COMB	TOTAL
FINANCIAL MANAGEMENT		1,010	229	151	1,390
FINANCIAL AID ADMINISTRATION		161	45	43	249
OTHER ADMIN APPLICATIONS		225	65	26	316
GENERAL ADMINISTRATIVE SERVICE		390	62	42	494
ADMISSIONS & RECORDS		1,204	377	219	1,800
AUXILIARY SERVICE		244	50	27	321
LOGISTICS & RELATED SERVICES		204	91	43	338
PLANNING, MGMT & INSTNL RSCH		536	91	53	680
PHYSICAL PLANT OPERATIONS		83	39	13	135
LIBRARY APPLICATIONS		106	111	33	250
HOSPITAL APPLICATIONS		43	72	23	138
*** TOTAL - ALL AREAS		4,156	1,232	673	6,061
100 INSTITUTIONS	AVERAGE	38	11	6	56

Table 40
APPLICATION SUMMARY BY AREA
Combined Academic/Administrative Installations

AREA	(RESPONSE COUNTS)	BATCH	ONLINE	COMB	TOTAL
FINANCIAL MANAGEMENT		1,743	441	297	2,481
FINANCIAL AID ADMINISTRATION		329	111	70	510
OTHER ADMIN APPLICATIONS		509	105	75	689
GENERAL ADMINISTRATIVE SERVICE		666	150	65	881
ADMISSIONS & RECORDS		2,042	765	487	3,294
AUXILIARY SERVICE		437	89	55	581
LOGISTICS & RELATED SERVICES		427	90	36	553
PLANNING, MGMT & INSTNL RSCH		993	162	98	1,253
PHYSICAL PLANT OPERATIONS		106	51	22	179
LIBRARY APPLICATIONS		227	143	49	419
HOSPITAL APPLICATIONS		60	23	11	94
*** TOTAL - ALL AREAS		8,339	2,138	1,315	11,792
242 INSTITUTIONS	AVERAGE	34	9	5	49

Table 41
DETAILED APPLICATION SUMMARY
All Responding Institutions

(RESPONSE COUNTS)				
FINANCIAL MANAGEMENT	BATCH	ONLINE	COMB	TOTAL
GENERAL FUND LEDGER	197	49	34	280
GENERAL FUND EXPENDITURES	180	51	33	272
DEPARTMENTAL EXPENDITURES	195	53	39	287
GENERAL ACCOUNTS RECEIVABLE	146	37	26	209
STUDENT ACCOUNTS RECEIVABLE	142	63	46	251
ACCOUNTS PAYABLE	171	38	27	236
PAYROLL	175	54	45	274
EMPLOYEE BENEFIT ACCOUNTING	129	28	15	172
RETIREMENT SYSTEM ACCOUNTING	109	12	11	132
BANK ACCOUNT RECONCILIATION	143	16	7	166
CASH FLOW PROJECTION	49	12	4	65
INVESTMENT RECORDS	52	6	6	64
INVESTMENT EVALUATION	32	6	1	39
GRANT & CONTRACT ADMINISTRATION	95	18	11	124
RESEARCH PROJECT ACCOUNTING	71	17	7	95
RESEARCH PROPOSAL MONITORING	42	11	1	54
FINANCIAL AID ACCOUNTING	148	47	45	240
TUITION & FEE ACCOUNTING	171	68	36	275
RESIDENCE HALL ACCOUNTING	110	27	28	165
STORES ACCOUNTING	107	24	10	141
TELEPHONE ACCOUNTING	155	19	9	183
TRAVEL ACCOUNTING	126	22	7	155
FINANCIAL MANAGEMENT	2,753	670	448	3,871
FINANCIAL AID ADMINISTRATION	BATCH	ONLINE	COMB	TOTAL
FINANCIAL AID EVALUATION	87	38	31	156
FINANCIAL AID AWARDS	135	46	38	219
STUDENT EMPLOYMENT RECORDS	132	38	28	199
WORK STUDY RECORDS	136	34	24	194
FINANCIAL AID ADMINISTRATION	490	156	113	759
OTHER ADMIN APPLICATIONS	BATCH	ONLINE	COMB	TOTAL
ALUMNI RECORDS	155	67	38	260
FOUNDATION & GIFT RECORDS	99	40	29	168
TEST SCORING & ANALYSIS	159	21	11	191
CURRICULUM PLANNING	26	9	6	41
TEACHER EVALUATION	137	8	2	147
TEACHER PLACEMENT	20	2	1	23
FRATERNITY/SORORITY RUSH RECORDS	28	2	0	30
STUDENT COUNSELING RECORDS	29	12	5	46
STUDENT PSYCHOLOGICAL TESTING	20	2	2	24
ATHLETIC EVENT TICKET SYSTEM	26	3	2	31
HEALTH SERVICE SYSTEM	35	4	5	44
OTHER ADMIN APPLICATIONS	734	178	181	1,093

Table 41 (continued)
DETAILED APPLICATION SUMMARY
All Responding Institutions

GENERAL ADMIN SERVICE	(RESPONSE COUNTS)			TOTAL
	BATCH	ONLINE	COMB	
FACILITIES INVENTORY (SPACE)	185	29	7	221
FACILITIES UTILIZATION ANALYSIS	139	17	3	159
CLASSROOM UTILIZATION ANALYSIS	156	20	6	182
PERSONNEL RECORDS	139	75	49	263
PERSONNEL PLACEMENT	29	9	4	42
PERSONNEL PLACEMENT	10	12	4	34
NEW COMPLIANCE REPORTING	196	15	8	169
STAFF ETHNIC GROUP REPORTING	135	16	12	163
CIVIL SERVICE POSITION RECORDS	95	10	10	65
SKILLS INVENTORY RECORDS	14	9	4	27
GENERAL ADMIN SERVICE	1,006	212	107	1,325
ADMISSIONS & RECORDS				TOTAL
	BATCH	ONLINE	COMB	
UNDERGRAD ADMISSIONS PROCESSING	137	101	63	301
GRADUATE ADMISSIONS PROCESSING	99	58	45	202
HIGH SCHOOL TESTING RECORDS	114	36	23	173
COURSE CATALOG RECORDS	105	73	35	213
SCHEDULE OF CLASSES PREP	134	81	45	260
STUDENT CLASS SCHEDULING	133	70	35	238
TUITION & FEE ASSESSMENT	162	63	34	259
STUDENT REGISTRATION PROCESSING	188	89	55	332
CLASS ROSTERS	242	40	38	320
TERM STUDENT RECORDS & REPORTS	215	50	45	310
COURSE ADD/DROP PROCESSING	169	107	49	325
ENROLLMENT REPORTING	262	36	28	326
ENROLLMENT STATISTICS	264	33	23	320
STUDENT ETHNIC GROUP REPORTING	239	23	9	271
TERM GRADE REPORTING	240	41	35	316
HONORS PROGRAM RECORDS	168	18	3	189
STUDENT TRANSCRIPT RECORDS	171	36	33	240
DEGREE REQUIREMENTS EVALUATION	72	12	11	95
CORRESPONDENCE COURSE RECORDS	37	6	3	46
ACADEMIC ADVISEMENT RECORDS	76	12	11	99
CAREER PLANNING	25	21	6	52
STUDENT RECRUITMENT	75	24	21	120
CONTINUING EDUCATION UNITS	77	18	14	109
GRADE DISTRIBUTIONS	238	27	9	274
CLASSROOM ASSIGNMENT	79	25	17	121
VETERANS REPORTING	149	15	18	174
FOREIGN STUDENT REPORTING	137	12	6	155
FINAL EXAM SCHEDULING	47	7	8	62
ADMISSIONS & RECORDS	4,046	1,142	786	5,974

Table 41 (continued)
DETAILED APPLICATION SUMMARY
All Responding Institutions

	RESPONSE COUNTS			
	BATCH	ONLINE	COMB	TOTAL
AUXILIARY SERVICE				
FACULTY/STAFF DIRECTORY PREP	142	31	20	193
FACULTY CLUB BILLING	23	2	2	27
RESIDENCE HALL BILLING	110	21	15	146
STUDENT DIRECTORY PREPARATION	161	20	10	191
STUDENT HOUSING REPORTS	120	20	15	163
FOOD SERVICE MENU & INVENTORY	22	10	2	34
BOOKSTORE INVENTORY & OPERATING	66	10	11	95
EVENTS CALENDAR PREPARATION	7	4	1	12
ROOM RESERVATIONS	22	13	6	41
AUXILIARY SERVICE	681	139	82	902
LOGISTICS & RELATED SERVICES				
PURCHASE ORDER FOLLOW-UP	47	17	13	77
PURCHASING INFORMATION SYSTEM	52	31	25	108
VENDOR INFORMATION SYSTEM	08	39	26	153
STORES INVENTORY	72	18	11	101
OFFICE MACHINE REPAIR CONTROL	16	3	0	19
EQUIPMENT INVENTORY	147	30	11	188
AUTOMOBILE REGISTRATION	66	19	15	100
PARKING LOT SPACE ASSIGNMENT	24	5	3	34
TRAFFIC VIOLATION RECORDS	54	17	15	86
CRIME REPORTING	11	4	2	17
CAR POOL MATCHING	33	2	2	37
MOTOR POOL RECORDS	19	4	6	29
LOGISTICS & RELATED SERVICES	631	189	129	949
PLANNING, MGMT & INSTNL RESRCH				
BUDGET FORECASTING	87	19	10	116
BUDGET PREPARATION	148	42	28	218
BUDGET ANALYSIS	127	25	20	172
BUDGET POSITION CONTROL	104	30	19	155
INSTITUTIONAL COST STUDIES	125	17	4	146
FACULTY SALARY ANALYSIS	165	20	12	197
SUPPORT STAFF SALARY ANALYSIS	137	17	9	163
FACULTY ACTIVITY ANALYSIS	107	8	8	123
SUPPORT STAFF ACTIVITY ANALYSIS	37	4	3	44
RESOURCE REQUIREMENTS MODELING	47	8	2	57
STUDENT FLOW MODELING	43	4	0	47
LP & RANGE PLANNING	36	8	4	48
ENROLLMENT FORECASTING	58	3	5	66
HEGIS REPORTING	168	14	6	188
DATA ELEMENT DICTIONARY	71	22	15	108
INSTITUTIONAL CODE CONTROL	18	9	6	33
ICLM/CROSS-OVER STUDY	49	3	0	52
PLANNING, MGMT & INSTNL RESRCH	1,529	253	174	1,933

Table 41 (continued)
DETAILED APPLICATION SUMMARY
 All Responding Institutions

	(RESPONSE COUNTS)			
#PHYSICAL PLANT OPERATIONS	BATCH	ONLINE	COMB	TOTAL
PHYSICAL PLANT ACCOUNTING	57	12	15	84
PHYSICAL PLANT JOB SCHEDULING	24	8	3	35
BUILDING MAINTENANCE COSTS	35	6	3	44
EQUIPMENT PREVENTATIVE MAINT	28	7	2	37
KEY INVENTORY	30	9	4	43
BUILDING ACCESS CONTROL	3	7	1	11
ENERGY MONITORING SYSTEM	12	41	7	60
#PHYSICAL PLANT OPERATIONS	189	90	35	314
#LIBRARY APPLICATIONS	BATCH	ONLINE	COMB	TOTAL
LIBRARY ACQUISITIONS	44	32	15	111
LIBRARY CIRCULATION	58	54	14	118
CARD & MATERIAL PREP & CONTROL	30	27	7	64
LIBRARY CIRCULATION CONTROL	50	40	15	105
LIBRARY SERIALS HOLDINGS	93	32	11	136
BIBLIOGRAPHICAL SEARCH SERVICE	22	50	11	83
FUGITIVE MATERIAL INDEXING	5	6	1	12
EDUCATIONAL MEDIA SERVICES	19	13	8	40
#LIBRARY APPLICATIONS	333	254	82	669
#HOSPITAL APPLICATIONS	BATCH	ONLINE	COMB	TOTAL
PATIENT REGISTRATION/ADMISSION	11	20	3	34
HOSPITAL CENSUS	9	11	5	25
MEDICAL RECORDS	8	12	3	23
HOSP APPOINTMENTS & SCHEDULING	4	3	0	7
HOSP CENTRAL SUPPLY INVENTORY	11	4	2	17
HOSP COMMUNIC & ORDER ENTRY	4	5	0	9
HOSPITAL DIETARY FOOD SERVICE	7	3	1	11
HOSPITAL HOUSEKEEPING	1	2	0	3
HOSP LABORATORY INFO SYSTEM	5	6	4	15
RADIOLOGY INFORMATION SYSTEM	2	5	2	9
PHARMACY INFORMATION SYSTEM	2	6	4	12
NURSING STATION SUPPORT SYSTEM	1	6	0	7
PHYSICIAN SUPPORT SYSTEM	0	1	1	2
PATIENT BILLING/ACCTS RECVEBLE	17	7	8	32
HOSPITAL FINANCIAL INFO SYSTEM	19	3	1	23
BLOOD BANK RECORDS	2	1	0	3
#HOSPITAL APPLICATIONS	103	95	34	232
#TOTAL - ALL APPLICATIONS	12,495	3,370	1,988	17,853

Appendices

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*
* CAUSE MEMBER INSTITUTION PROFILE
*
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*
* THE CAUSE NATIONAL OFFICE IS IN THE PROCESS OF ESTABLISHING A DATA BASE OF PROFILES FOR THE ADMINISTRATIVE INFORMATION SYSTEMS
* OFFICE OF THE MEMBER CAMPUSES OF ALL CAUSE MEMBER INSTITUTIONS. WHEN COMPLETE, SUMMARIES OF THESE PROFILES WILL BE PUBLISHED
* AND DISTRIBUTED TO CAUSE VOTING REPRESENTATIVES AS A MEMBER BENEFIT. UNPAID PROFILES WILL ALSO BE AVAILABLE ON REQUEST.
*
* THIS INSTITUTIONAL PROFILE IS BASED IN PART ON THE FOURTH INVENTORY OF COMPUTERS IN HIGHER EDUCATION (FICHE) SPONSORED BY THE
* NATIONAL SCIENCE FOUNDATION, CONDUCTED BY DR. JOHN HANLON IN 1976, AND PUBLISHED BY EDUCO IN 1979. IN THE FUTURE, THIS
* PROFILE WILL BE SENT TO YOU ON YOUR INSTITUTION'S MEMBERSHIP ANNIVERSARY DATE FOR CORRECTION AND RETURN TO CAUSE.
*
* PLEASE CORRECT ANY INFORMATION THAT IS NOT ACCURATE, FILL IN ANY MISSING INFORMATION, AND ON THE SEPARATE APPLICATIONS SECTION,
* MARK AN 'X' FOR THE BATCH AND/OR ONLINE COLUMNS FOR THE ADMINISTRATIVE COMPUTER APPLICATIONS IN PRODUCTION AT YOUR INSTITUTION.
* ALSO, WE WOULD LIKE TO KNOW ABOUT ANY ADMINISTRATIVE APPLICATIONS YOU MAY HAVE THAT ARE NOT ON THE LIST.
*
*****

----- INSTITUTIONAL SECTION -----
----- INSTITUTIONAL FILL CODE (LAST) -----
----- FICE DATA -----

INSTITUTION NAME: OFFICE NAME: CONTROL: ( ) PUBLIC
( ) PRIVATE

CAUSE MEMBER REPT: OFFICE ADDR: TYPE: ( ) UNIV
( ) 4-YR
( ) 2-YR

MEMBER TITLE: CITY/ST/ZIP: ( ) 4-YR
( ) 2-YR

MEMBER PHONE: INSTITUTIONAL ANNUAL ENROLLMENT:
OPERATING BUDGET 1979:

DIRECTOR OF AIS:

-----
*
* ADMINISTRATIVE INFORMATION SYSTEMS (AIS) SECTION
*
*
* AIS REPORTS TO: ( ) PRESIDENT ( ) ACADEMIC VICE PRES
* ( ) EXEC VICE PRES ( ) BUSINESS VICE PRES
* ( ) ADMIN VICE PRES ( ) OTHER
*
* AIS STAFFING: FTE CURRENT AIS ANNUAL BUDGET 1979
* (NAME) (NAME/NUMBER/NUMBER)
*
* MANAGEMENT: STAFF: ( ) ( ) ( )
*
* ANALYST/PROG: HARDWARE: ( ) ( ) ( )
*
* SYSTEMS PROG: SOFTWARE: ( ) ( ) ( )
*
* OPERATIONS: COMMUNICATIONS: ( ) ( ) ( )
*
* CLERICAL OTHER: COMMUNICATIONS: ( ) INTERACTIVE NON-UP DEVICE
*
* TOTAL STAFF: TOTAL AIS: ( ) REMOTE-JOB-ENTRY NON-UP DEVICE
*
*****

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CAUSE MEMBER INSTITUTION PROFILE - APPLICATIONS SECTION		1		2	
FINANCIAL MANAGEMENT	BATCH ONLINE	ADMISSIONS & RECORDS	BATCH ONLINE	PLANNING, MGMT & INSTN. RESCH	BATCH ONLINE
GENERAL FUND LEADER	() ()	* UNDERGRAD ADMISSIONS PROCESSING	() ()	* BUDGET FORECASTING	() ()
GENERAL FUND EXPENDITURES	() ()	* GRADUATE ADMISSIONS PROCESSING	() ()	* BUDGET PREPARATION	() ()
DEPARTMENTAL EXPENDITURES	() ()	* HIGH SCHOOL TESTING RECORDS	() ()	* BUDGET ANALYSIS	() ()
GENERAL ACCOUNTS RECEIVABLE	() ()	* COURSE CATALOG RECORDS	() ()	* BUDGET POSITION CONTROL	() ()
STUDENT ACCOUNTS RECEIVABLE	() ()	* SCHEDULE OF CLASSES PREPARATION	() ()	* INSTITUTIONAL COST STUDIES	() ()
ACCOUNTS PAYABLE	() ()	* STUDENT CLASS SCHEDULING	() ()	* FACULTY SALARY ANALYSIS	() ()
PAYROLL	() ()	* TUITION & FEE ASSESSMENT	() ()	* SUPPORT STAFF SALARY ANALYSIS	() ()
EMPLOYEE BENEFIT ACCOUNTING	() ()	* STUDENT REGISTRATION PROCESSING	() ()	* FACULTY ACTIVITY ANALYSIS	() ()
INVESTMENT SYSTEM ACCOUNTING	() ()	* CLASS ROOSTERS	() ()	* SUPPORT STAFF ACTIVITY ANALYSIS	() ()
BANK ACCOUNT RECONCILIATION	() ()	* TERM STUDENT RECORDS & REPORTS	() ()	* RESOURCE REQUIREMENTS MODELING	() ()
CASH FLOW PROJECTION	() ()	* COURSE ADD/DROP PROCESSING	() ()	* STUDENT FLOW MODELING	() ()
INVESTMENT RECORDS	() ()	* ENROLLMENT REPORTING	() ()	* LONG RANGE PLANNING	() ()
INVESTMENT EVALUATION	() ()	* ENROLLMENT STATISTICS	() ()	* ENROLLMENT FORECASTING	() ()
GRANTS & CONTRACT ADMINISTRATION	() ()	* STUDENT ETHNIC GROUP REPORTING	() ()	* REGIS. REPORTING	() ()
RESEARCH PROJECT ACCOUNTING	() ()	* TERM GRADE REPORTING	() ()	* DATA ELEMENT DICTIONARY	() ()
RESEARCH PHYSICAL MAINTENANCE	() ()	* HONORS PROGRAM RECORDS	() ()	* INSTITUTIONAL CODE CONTROL	() ()
FINANCIAL AID ACCOUNTING	() ()	* STUDENT TRANSCRIPT RECORDS	() ()	* ICLM/CROSS-OVER STUDY	() ()
TUITION & FEE ACCOUNTING	() ()	* DEGREE REQUIREMENTS EVALUATION	() ()		
RESIDENCE HALL ACCOUNTING	() ()	* CORRESPONDENCE COURSE RECORDS	() ()	* PHYSICAL PLANT OPERATIONS	BATCH ONLINE
STUDENT ACCOUNTING	() ()	* ACADEMIC ADVISORSHIP RECORDS	() ()		
TELEPHONE ACCOUNTING	() ()	* CAREER PLANNING	() ()	* PHYSICAL PLANT ACCOUNTING	() ()
TRAVEL ACCOUNTING	() ()	* STUDENT RECRUITMENT	() ()	* PHYSICAL PLANT JOB SCHEDULING	() ()
FINANCIAL AID ADMINISTRATION	BATCH ONLINE	CONTINUING EDUCATION UNITS	() ()	* BUILDING MAINTENANCE COSTS	() ()
FINANCIAL AID EVALUATION	() ()	* GRADE DISTRIBUTIONS	() ()	* EQUIPMENT PREVENTATIVE MAINT	() ()
FINANCIAL AID APPEALS	() ()	* CLASSROOM ASSIGNMENT	() ()	* KEY INVENTORY	() ()
STUDENT EMPLOYMENT RECORDS	() ()	* VETERANS REPORTING	() ()	* BUILDING ACCESS CONTROL	() ()
WORK STUDY RECORDS	() ()	* FURNITURE STUDENT REPORTING	() ()	* ENERGY MONITORING SYSTEM	() ()
OTHER STUDENT APPLICATIONS	BATCH ONLINE	* FINAL EXAM SCHEDULING	() ()		
		AUXILIARY SERVICE	BATCH ONLINE	LIBRARY APPLICATIONS	BATCH ONLINE
				ACQUISITIONS	
ALUMNI RECORDS	() ()	* FACULTY/STAFF DIRECTORY PREP	() ()	* CATALOGING	() ()
FOUNDATION & DONOR RECORDS	() ()	* FACULTY CLUB BILLING	() ()	* CARD & MATERIAL PREP & CONTRL	() ()
TEST SCORING & ANALYSIS	() ()	* RESIDENCE HALL BILLING	() ()	* CALCULATOR CONTROL	() ()
CURRICULUM PLANNING	() ()	* STUDENT DIRECTORY PREPARATION	() ()	* SERIALS HOLDINGS	() ()
TEACHER EVALUATION	() ()	* STUDENT HOUSING REPORTS	() ()	* BIOLOGHAPHEICAL SEARCH SERVICE	() ()
TEACHER COMMENT	() ()	* FOOD SERVICE MENU & INVENTORY	() ()	* FUGITIVE MATERIAL INDEXING	() ()
FRATERNITY/SORORITY MATH RECS	() ()	* HOUSEHOLD INVENTORY & OPERATIONS	() ()	* EDUCATIONAL MEDIA SERVICES	() ()
STUDENT COUNSELING RECORDS	() ()	* EVENTS CALENDAR PREPARATION	() ()		
STUDENT PSYCHOLOGICAL TESTING	() ()	* ROOM RESERVATIONS	() ()	* HOSPITAL APPLICATIONS	BATCH ONLINE
ADULT EVENT TICKET SYSTEM	() ()	* LOGISTICS & RELATED SERVICES	BATCH ONLINE	PATIENT REGISTRATION/ADMISSION	() ()
HEALTH SERVICE SYSTEM	() ()			* HOSPITAL CENSUS	() ()
GENERAL ADMINISTRATION SERVICE	BATCH ONLINE	PURCHASE UNDER PICK-UP	() ()	* MEDICAL RECORDS	() ()
		PURCHASING INFORMATION SYSTEM	() ()	* APPOINTMENTS & SCHEDULING	() ()
		VENUE INFORMATION SYSTEM	() ()	* CENTRAL SUPPLY INVENTORY	() ()
FACILITIES UTILIZATION (SPACE)	() ()	* STORES INVENTORY	() ()	* COMMUNICATIONS & ORDER ENTRY	() ()
FACILITIES UTILIZATION ANALYSIS	() ()	* OFFICE MACHINE REPAIR CONTRL	() ()	* DISTANT FOOD SERVICE	() ()
PERSONNEL UTILIZATION	() ()	* EQUIPMENT INVENTORY	() ()	* HOUSEKEEPING	() ()
PERSONNEL EVALUATION	() ()	* AUTOMOBILE REGISTRATION	() ()	* LABORATORY INFORMATION SYSTEM	() ()
PERSONNEL PLANNING	() ()	* PARKING LOT SPACE ASSIGNMENT	() ()	* RADIOLOGY INFORMATION SYSTEM	() ()
NEW COMPLIANCE REPORTING	() ()	* TRAFFIC VIOLATION RECORDS	() ()	* PHARMACY INFORMATION SYSTEM	() ()
STATE ETHNIC GROUP REPORTING	() ()	* CRIME REPORTING	() ()	* NURSING STATION SUPPORT SYSTEM	() ()
LEGAL SERVICE POSITION RECORDS	() ()	* CAR POOL MATCHING	() ()	* PHYSICIAN SUPPORT SYSTEM	() ()
STAFF INVENTORY RECORDS	() ()	* MOTOR POOL RECORDS	() ()	* PATIENT BILLING/ACCIS RECEIV	() ()
				* HOSPITAL FINANCIAL INFO SYSTEM	() ()
				* BLOOD BANK RECORDS	() ()
NOTE: IF YOU HAVE ADDITIONAL APPLICATIONS IN PRODUCTION, PLEASE CHECK THE SPACE					
1. SEE ADDITIONAL PAGE 142 FOR THE LIST AND DATE OF THE PAGE					

In 1979 the CAUSE Board of Directors decided to establish a National Database on administrative information systems in colleges and universities. Since the project was to be funded entirely from CAUSE member dues, the initial database was planned to include information from CAUSE member campuses only. The CAUSE Member Institution Profile survey form was used to collect the information for the database.

The CAUSE Member Institution Profile

The initial survey form (shown in Appendix A) was developed by the CAUSE National Office and tested several times by the members of the CAUSE Board of Directors. In addition to its use in maintaining the CAUSE National Database, the survey form is used by several state agencies and groups of institutions to gather information on computing activities. To make it as easy as possible for members to respond, the 1980 Profile forms were pre-printed with a limited amount of information already available in the CAUSE National Office.

The 1980 CAUSE Member Institution Profile was the first survey used to establish the CAUSE National Database and to provide data for this Monograph. Several changes are anticipated for the 1981 Profile as a result of suggestions from respondents, and from experience gained by preparing the analyses for this Monograph. These changes are mentioned under the comments for each section. Future

versions of the Profile will have all of the information pre-printed for review.

The Institutional Section of the Profile contains pre-printed information from the CAUSE Member Mailing List system and the latest edition of the Education Directory published by the National Center for Education Statistics. For U.S. Institutions the "FICE DATA" are extracted from the Education Directory file for pre-printing; however, this information may be changed by the responding institution, since the enrollment shown in the Education Directory is usually at least one year older than the current date.

The Administrative Information Systems (AIS) Section provides detailed information on organization, reporting, staffing and budget, as well as a list of the major computer hardware and proprietary software in use at the institution.

Several changes will be made to the Administrative Information Systems Section of the Profile to provide more complete data for future analyses.

Since over one-fourth of the respondents checked the "OTHER" category for the "AIS REPORTS TO" question, space will be allowed for the title of a specific administrative officer to be entered. This data should allow more detailed analysis of the reporting level for administrative information systems organizations.

In addition to indicating whether administrative computing operates a separate installation or is combined with academic computing, it will be possible to indicate if the computing facility is managed by an outside organization, and if so, what company or agency.

A minor addition will allow an indication that AIS costs are "NOT BILLED" to supplement the "FULLY BILLED" and "PARTIALLY BILLED" categories.

A significant change will be made in the "STAFFING" and "BUDGET" areas to allow for more accurate information about combined academic/administrative installations. For these installations, the 1980 Profile requested the respondent to break out the full-time-equivalent (FTE) staff and the budget allocated to the support of administrative information systems. Since many respondents had difficulty with this question, the 1981 Profile will request the FTE staff and budget by categories for the full combined installation, along with an estimated percentage to be allocated to the support of administrative information systems. The instructions suggest that the respondent can make the best estimate on the basis of local information. Separate administrative installations will simply enter "100%" in all staff and budget categories. Since almost 70% of the responding institutions report combined academic/administrative installations, this method should provide more comparable information.

The Proprietary Software section of the 1980 Profile provided space for respondents to list up to 10 packages in use. The large number of responses prompted a structuring of this question into three sections for the 1981 Profile: (1) up to ten application packages; (2) up to four database packages; and (3) up to four "other" packages. In addition, a separate question requests an indication of the administrative and academic use of the major computer programming languages.

The Applications Section provides a list of 144 administrative computer applications divided into eleven separate areas. The eleven area titles were chosen to be roughly equivalent to the appropriate sections of the NCHEMS Program Classification Structure.¹⁴ This list is based on the 1976 FICHE (Fourth Inventory of Computers in Higher Education) Survey Administrative Computing Applications with several applications added.¹⁵

¹⁴Collier

¹⁵Hamblen and Baird, p. XII--Form No. 4.

Respondents were requested to list any applications in production that were not included on the list. While many of the suggested additional applications did fit into already existing categories, there were seven completely new applications to be added to the 1981 Profile. Those applications and the major area are:

<u>Application</u>	<u>Area</u>
Mailing System	Auxiliary Service
Audio/Visual Booking/Billing	Auxiliary Service
College/University Press	Auxiliary Service
Computer Billing System	Auxiliary Service
Financial Modeling	Planning, Mgmt, and Institutional Research
Project Management System	Planning, Mgmt, and Institutional Research
Sports Information System	Other Administrative Applications

The increased use of distributed processing techniques for administrative information systems in colleges and universities prompted the addition of another mode of processing for the administrative applications - Distributed Data Processing (DDP). Also, the instructions for the 1981 Profile will include definitions of the three processing modes. Those definitions are as follows:

BATCH PROCESSING is defined as any application operating on a mainframe or a stand-alone mini or microcomputer in the classic scheduled or job-by-job basis with no interactive processing. Remote-job-entry submission or preparation and submission of batch jobs from interactive terminals are both classed as batch processing.

ONLINE PROCESSING is defined as an application with any portion operating in an interactive mode from terminals communicating with the mainframe or stand-alone mini or microcomputer, either directly or through telecommunications. Real-time file maintenance is not required for an application to qualify as online. An online application may also have associated batch or distributed processing steps.

DISTRIBUTED DATA PROCESSING is defined as the operation of an application or a portion of an application using one or more interactive terminals connected to a secondary computer that communicates with a mainframe or a primary computer, either interactively or in batch mode, through direct wire, telecommunications, or through the physical transfer of data in machine readable form on magnetic media. The secondary computer should utilize local processing capabilities beyond the simple recording of transactions on magnetic media.

One pre-printed Profile was sent to the representative of each campus of each CAUSE member institution in May 1980. Responses were received from 250 campuses by August 1980. In September 1980 a second Profile was sent to the campuses that did not respond to the first mailing and to new CAUSE members since the first mailing. An additional 100 responses were received by the end of November 1980, when the file was frozen for editing and analysis for this Monograph.

CAUSE member campuses began receiving the 1981 CAUSE Member Institution Profile survey forms in July 1981 on a rolling monthly basis. The CAUSE National Database will be updated from those forms through June 1982. At that point, another edition of this Monograph is planned, including comparisons of the data between 1980 and 1982.

In addition to providing information for this Monograph, CAUSE members will have regular access to information from the CAUSE National database through the CAUSE Office.

CAUSE members and others who have suggestions for future improvements in either the Member Institution Profile or the information presented in this Monograph are requested to communicate with the CAUSE National Office in Boulder, Colorado.

The Profile Analyses

The CAUSE National Database was created from the 1980 Profile responses, which were edited and summarized for this Monograph. Most of the information is summarized in a common format by the following variables:

Institutional Control:	Public/Private	
Institutional Type:	University/Four-Year/Two-Year	
Enrollment Size: (Students)	Large	18,000 and over
	Medium-Large	8,000 - 17,999
	Medium	2,000 - 7,999
	Small	less than 2,000

These enrollment size groups were chosen both to correspond to the CAUSE dues categories, and because the institutions in these groups generally have similar administrative information systems needs.

Where appropriate, several of the responses are also summarized by separate administrative versus combined administrative/academic computing installations.

The information is presented in a format that will allow development of trend lines when data from future Profiles are available.

The Figures and Tables throughout this Monograph use the following abbreviations for the institutional groups:

ALL	-	All Responding Institutions
PUB	-	Public Institutions
PRV	-	Private Institutions
UNV	-	Universities
4YR	-	Four-Year Institutions
2YR	-	Two-Year Institutions
LRG	-	Large Institutions
M/L	-	Medium-Large Institutions
MED	-	Medium Institutions
SML	-	Small Institutions
SEP	-	Separate Administrative Computing Installations
CMB	-	Combined Academic/Administrative Computing Installations

Where appropriate, pie-charts and graphs (Figures) have been used to make information easier to understand. All of the Figures use information extracted from the detailed summary Tables, and in many cases, the number of institutions in each institution group is shown in the Figure.

The computer hardware and proprietary software entries were selected, sorted, and tallied into major groups to provide summary information. The wide range of responses in these areas make detailed presentation in this document too lengthy; however, additional analyses will be undertaken and published in later articles. Specific details are available by special arrangement with the CAUSE National Office.

The Responding Institutions

Responses from the 350 institutions are summarized in detailed Figures and Tables throughout the Monograph. While no statistical analysis is made to show that the responding institutions are representative of all colleges and universities, Tables 1, 2 and 3 in Chapter 1 show the distribution of responding institutions, the distribution of

all institutions in the U.S., and the percentage of institutions responding in each group. The fact that foreign member institutions are included in Table 1 and not in Table 2 causes a slight distortion in the percentages in Table 3; however, there are so few foreign members that they have not been removed from the files. Also, most of the foreign members appear in the medium public university institution group. Figures 1, 2, and 3 in Chapter 1 also show the distribution of the institutions by control, type, and size in pie-chart form.

When comparing individual institutional information to the summaries in this Monograph it should be obvious that the number of institutions in any specific data cell should be considered. More confidence can be placed in the data from 20 to 30 or more institutions than from a group of five or six institutions.

In cases where there are fewer than five responses in any detailed institutional group, the data have been eliminated from the Table. This procedure is in keeping with the CAUSE policy not to release individual institutional information when data for fewer than five cases are available.

There are currently 500 CAUSE Member Campuses, so the 350 Profile responses represent 70% of the possible campuses. Because of timing, many of the 150 "non-respondents" are new members who will receive the 1981 Profile for the first time.

Interest in this CAUSE activity has been high, and it is anticipated that the CAUSE National Database will grow to a larger percentage of the colleges and universities in the U.S. in future years, providing better trend data and reference information.

The 350 CAUSE Member Campuses responding to the 1980 Profile are listed below in alphabetic order.

AKRON, UNIVERSITY OF
ALABAMA/HUNTSVILLE, UNIV OF
ALBION COLLEGE
ALFRED UNIVERSITY
ALLEGHENY COLLEGE
ALVERNO COLLEGE
ALVIN COMMUNITY COLLEGE
AMARILLO COLLEGE
AMERICAN UNIVERSITY
APPALACHIAN STATE UNIVERSITY
ARAPAHOE COMMUNITY COLLEGE
ARIZONA STATE UNIVERSITY
ARIZONA, UNIVERSITY OF
ARKANSAS/PINE BLUFF, UNIV OF
AUBURN UNIVERSITY
AUGUSTA COLLEGE
AUSTIN COLLEGE
AVERETT COLLEGE
BALL STATE UNIVERSITY
BAPTIST COLLEGE AT CHARLESTON
BENTLEY COLLEGE
BETHANY NAZARENE COLLEGE
BOISE STATE UNIVERSITY
BRADLEY UNIVERSITY
BROWN UNIVERSITY
BURLINGTON COUNTY COLLEGE
CAL COLLEGE OF ARTS & CRAFTS
CAL STATE POLY/SAN LUIS OBISPO
CAL STATE UNIV/DOMINGUEZ HILLS
CAL STATE UNIV/FULLERTON
CAL STATE UNIV/LONG BEACH
CAL STATE UNIV/SACRAMENTO
CALIFORNIA/DAVIS, UNIV OF
CALIFORNIA/RIVERSIDE, UNIV OF
CALIFORNIA/SAN DIEGO, UNIV OF
CALIFORNIA/SAN FRANCISCO, U OF
CALIFORNIA/SANTA BARBARA, U OF
CALIFORNIA/SANTA CRUZ, UNIV OF
CALIFORNIA/SYSTEM, UNIV OF

CANOGA COLLEGE
CARNEGIE-MELLON UNIVERSITY
CATHOLIC UNIVERSITY OF AMERICA
CENTRAL MICHIGAN UNIVERSITY
CENTRAL STATE UNIVERSITY
CENTRAL WASHINGTON UNIVERSITY
CHADRON STATE COLLEGE
CHARLESTON, COLLEGE OF
CHICAGO STATE UNIVERSITY
CHICAGO, ART INSTITUTE OF
CHINESE UNIVERSITY
CHRISTIAN BROTHERS COLLEGE
CINCINNATI TECHNICAL COLLEGE
CINCINNATI, UNIVERSITY OF
CLAREMONT UNIVERSITY CENTER
CLEMSON UNIVERSITY
CLEVELAND STATE COMMUNITY COLL
COLGATE UNIVERSITY
COLO/HEALTH SCIENCES CTR, U OF
COLORADO COLLEGE
COLORADO STATE UNIVERSITY
COLORADO, UNIVERSITY OF
COLUMBIA STATE COMMUNITY COLL
COLUMBUS TECHNICAL INSTITUTE
COMMUNITY COLLEGE OF DENVER
CONNECTICUT/HEALTH CTR, UNIV OF
CREIGHTON UNIVERSITY
CUNY JOHN JAY COLL CRIM JUST
CUYAHOGA COMMUNITY COLLEGE
DARTMOUTH COLLEGE
DICKINSON COLLEGE
DREXEL UNIVERSITY
DREXEL UNIVERSITY
JUPAGE, COLLEGE OF
DUTCHESS COMMUNITY COLLEGE
DYERSBURG STATE COMMUNITY COLL
EAST CAROLINA UNIVERSITY
EAST TEXAS STATE UNIVERSITY
EASTERN ILLINOIS UNIVERSITY

EASTERN KENTUCKY UNIVERSITY
 EASTERN NEW MEXICO UNIVERSITY
 EASTERN OREGON STATE COLLEGE
 EASTERN WASHINGTON UNIVERSITY
 ECKERD COLLEGE
 EMPORIA STATE UNIVERSITY
 ESSEX COMMUNITY COLLEGE
 EVERGREEN STATE COLLEGE
 FAIRLEIGH DICKINSON U/TEANECK
 FAYETTEVILLE STATE UNIVERSITY
 FLATHEAD VALLEY COMM COLLEGE
 FLORIDA A&M UNIVERSITY
 FLORIDA INST OF TECHNOLOGY
 FLORIDA INTERNATIONAL UNIV
 FLORIDA STATE UNIVERSITY
 FORT HAYS STATE UNIVERSITY
 FORT VALLEY STATE COLLEGE
 FRANKLIN AND MARSHALL COLLEGE
 FRANKLIN COLLEGE
 FULLER THEOLOGICAL SEMINARY
 GADSDEN STATE JUNIOR COLLEGE
 GALLAUDET COLLEGE
 GEORGIA SOUTHERN COLLEGE
 GEORGIA STATE UNIVERSITY
 GEORGIA, UNIVERSITY OF
 GLASSBORO STATE COLLEGE
 GOGEBIC COMMUNITY COLLEGE
 GOVERNORS STATE UNIVERSITY
 GRAND VALLEY STATE COLLEGES
 GRANT MAC EWAN COMMUNITY COLL
 HAHNEMANN MED COLLEGE & HOSP
 HAMPSHIRE COLLEGE
 HARRIS-STONE STATE COLLEGE
 HARRISBURG AREA COMMUNITY COLL
 HARVARD UNIVERSITY
 HAVERFORD COLLEGE
 HAWAII, UNIVERSITY OF
 HEIDELBERG COLLEGE
 HILLSDALE COLLEGE
 HOUSTON, UNIVERSITY OF
 HUDSON VALLEY COMMUNITY COLL
 ILL BD OF GOVERNORS OF ST UNIV
 ILLINOIS WESLEYAN UNIVERSITY
 ILLINOIS/MEDICAL CENTER, U OF
 ILLINOIS/UNIV OFFICE, UNIV OF
 INDIANA UNIV/FORT WAYNE
 INDIANA UNIVERSITY
 INDIANA UNIVERSITY NORTHWEST
 INDIANA UNIVERSITY SOUTHEAST
 INDIANA UNIVERSITY/KOKOMO
 INDIANA UNIVERSITY/SOUTH BEND
 IOWA STATE UNIVERSITY
 ITHACA COLLEGE
 JACKSON STATE COMMUNITY COLL
 JACKSON STATE UNIVERSITY
 JARVIS CHRISTIAN COLLEGE
 JOHN TYLER COMMUNITY COLLEGE
 JOHNS HOPKINS UNIVERSITY
 KANSAS MEDICAL CENTER, UNIV OF
 KANSAS, UNIVERSITY OF
 KANSAS/ASSOC COLLS OF CENTRAL
 KASKASKIA COLLEGE
 KEARNEY STATE COLLEGE
 KENT STATE UNIVERSITY
 KENTUCKY, UNIVERSITY OF
 KENYON COLLEGE
 KING'S COLLEGE
 KIRKSVILLE COL OSTEOPATHIC MED
 LAKE SUPERIOR STATE COLLEGE
 LANGSTON UNIVERSITY
 LANSGING COMMUNITY COLLEGE
 LEE COLLEGE
 LEHIGH UNIVERSITY
 LINCOLN UNIVERSITY
 LOCK HAVEN STATE COLLEGE
 LONG ISLAND UNIV BROOKLYN CTR
 LOS ANGELES CC DISTRICT
 LOUISIANA COLLEGE
 LOUISIANA ST UNIV/SHREVEPORT
 LOUISIANA STATE UNIV/MED CTR
 LOUISIANA STATE UNIVERSITY
 LOUISIANA TECH UNIVERSITY
 LOYOLA MARYMOUNT UNIVERSITY
 LOYOLA UNIV IN NEW ORLEANS
 LOYOLA UNIVERSITY OF CHICAGO
 MACALESTER COLLEGE
 MADONNA COLLEGE
 MAINE MARITIME ACADEMY
 MANKATO STATE UNIVERSITY
 MANSFIELD STATE COLLEGE
 MARIST COLLEGE
 MARQUETTE UNIVERSITY
 MARYGROVE COLLEGE
 MARYLAND ST COLLEGES INFO CTR
 MASSACHUSETTS, UNIVERSITY OF
 MEDICAL COLLEGE OF GEORGIA
 MEMORIAL UNIV OF NEWFOUNDLAND
 MERCER UNIVERSITY
 METROPOLITAN STATE COLLEGE
 MIAMI-DADE COMMUNITY COLLEGE
 MIDDLE TENNESSEE STATE UNIV
 MILWAUKEE AREA TECHNICAL COL
 MINN ED COMP CONSORTIUM MECU
 MINNESOTA COMMUNITY COLLEGE
 MISSISSIPPI VALLEY STATE UNIV
 MISSOURI/COLUMBIA, UNIV OF
 MISSOURI/KANSAS CITY, UNIV OF
 MISSOURI/ST LOUIS, UNIV OF
 MONTCLAIR STATE COLLEGE
 MONTEVALLO, UNIVERSITY OF
 MOREHEAD STATE UNIVERSITY
 MOTLOW STATE COMMUNITY COLL
 MOUNT HOLYOKE COLLEGE
 MOUNT ROYAL COLLEGE
 NASSAU COMMUNITY COLLEGE
 NC AGR & TECH STATE UNIV
 NC AT CHAPEL HILL, UNIV OF
 NC AT CHARLOTTE, UNIV OF
 NC AT GREENSBORO, UNIV OF
 NC AT WILMINGTON, UNIV OF
 NC STATE UNIV RALEIGH
 NEBRASKA AT OMAHA, UNIV OF
 NEBRASKA MEDICAL CTR, UNIV OF
 NEBRASKA, UNIVERSITY OF
 NEVADA SYSTEM, UNIVERSITY OF
 NEW BRUNSWICK, UNIVERSITY OF
 NEW HAMPSHIRE, UNIVERSITY OF
 NEW MEXICO INST MINING & TECH
 NEW MEXICO, UNIVERSITY OF
 NEW ORLEANS, UNIVERSITY OF
 NEW SOUTH WALES, UNIVERSITY OF
 NORTH CENTRAL TECH COLLEGE
 NORTH FLORIDA, UNIVERSITY OF
 NORTH IDAHO COLLEGE
 NORTHAMPTON CO AREA COMM COLL
 NORTHEAST MISSOURI STATE UNIV

NORTHEAST TECHNICAL COMM COLL
 NORTHEASTERN ILLINOIS UNIV
 NORTHEASTERN OKLA STATE UNIV
 NORTHERN ARIZONA UNIVERSITY
 NORTHERN COLORADO, UNIV OF
 NORTHERN IOWA, UNIVERSITY OF
 NORTHERN MICHIGAN UNIVERSITY
 NORTHWESTERN UNIVERSITY
 NORWICH UNIVERSITY
 NOTRE DAME, UNIVERSITY OF
 OHIO STATE UNIV HOSPITALS
 OHIO STATE UNIVERSITY
 OHIO UNIVERSITY
 OHIO WESLEYAN UNIVERSITY
 OHIO COLLEGE
 OKLAHOMA BAPTIST UNIVERSITY
 OKLAHOMA ST UNIV TECH INST
 OKLAHOMA STATE UNIVERSITY
 OKLAHOMA, UNIVERSITY OF
 OLD DOMINION UNIVERSITY
 OLIVE NAZARENE COLLEGE
 OLYMPIC COLLEGE
 ORAL ROBERTS UNIVERSITY
 OREGON COLLEGE OF EDUCATION
 OREGON INSTITUTE OF TECHNOLOGY
 OREGON STATE UNIVERSITY
 OREGON, UNIVERSITY OF
 PALO VERDE COLLEGE
 PARKLAND COLLEGE
 PEMBRROKE STATE UNIVERSITY
 PENNSYLVANIA, UNIVERSITY OF
 PERU STATE COLLEGE
 PETROLEUM & MINERALS, UNIV OF
 PHILLIPS UNIVERSITY
 PITTSBURG STATE UNIVERSITY
 PITTSBURGH, UNIVERSITY OF
 PORTLAND STATE UNIVERSITY
 QUINCY COLLEGE
 RADFORD UNIVERSITY
 REGINA, UNIVERSITY OF
 RENSSELAER POLYTECH INSTITUTE
 RHODE ISLAND COLLEGE
 RHODE ISLAND, UNIVERSITY OF
 ROANE STATE COMMUNITY COLLEGE
 ROCHESTER INST TECHNOLOGY
 ROCKEFELLER UNIVERSITY
 ROCKLAND COMMUNITY COLLEGE
 RUSH UNIVERSITY
 SAINT BENEDICT, COLLEGE OF
 SAINT BONAVENTURE UNIVERSITY
 SAINT CLOUD STATE UNIVERSITY
 SAINT JOSEPH'S COLLEGE
 SAINT MARY'S UNIV/SAN ANTONIO
 SAINT MICHAEL'S COLLEGE
 SASKATCHEWAN, UNIVERSITY OF
 SHELBY STATE COMMUNITY COLLEGE
 SOMERSET COUNTY COLLEGE
 SOUTH ALABAMA, UNIVERSITY OF
 SOUTH FLORIDA, UNIVERSITY OF
 SOUTH, UNIVERSITY OF THE
 SOUTHEAST MISSOURI STATE UNIV
 SOUTHEASTERN MASS UNIVERSITY
 SOUTHERN CALIFORNIA, UNIV OF
 SOUTHERN ILL UNIV/CARBONDALE
 SOUTHERN ILL UNIV/EDWARDSVILLE
 SOUTHERN ILL UNIV/SCH OF MED
 SOUTHWESTERN LOUISIANA, U OF
 ST. CLAIR COLLEGE

STANFORD UNIVERSITY
 SUNY COLLEGE AT BUFFALO
 SUNY COLLEGE AT FREDONIA
 SUNY COLLEGE AT NEW PALTZ
 SUNY COLLEGE AT OLD WESTBURY
 SUNY UNIV CTR AT BUFFALO
 SUNY UNIV CTR AT STONY BROOK
 TEMPLE UNIVERSITY
 TENN CTR HEALTH SCI, UNIV OF
 TENNESSEE AT MARTIN, UNIV OF
 TENNESSEE KNOXVILLE, UNIV OF
 TENNESSEE STATE BD OF REGENTS
 TENNESSEE STATE UNIVERSITY
 TENNESSEE TECHNOLOGICAL UNIV
 TENNESSEE/CHATTANOOGA, UNIV OF
 TEXAS AT EL PASO, UNIV OF
 TEXAS AT TYLER, UNIVERSITY OF
 TEXAS TECH UNIVERSITY
 THREE COLL COMPUTER CENTER
 TIDEWATER COMMUNITY COLLEGE
 TN SYSTEM/EAST TENN STATE UNIV
 TRENTON STATE COLLEGE
 TRI-COLLEGE COMPUTER CENTER
 TRI-COUNTY TECHNICAL COLLEGE
 TRITON COLLEGE
 U.S. AIR FORCE ACADEMY
 UNION COLLEGE
 UNIVERSITE DU QUEBEC
 UTAH STATE UNIVERSITY
 UTAH, UNIVERSITY OF
 UTICA COLLEGE
 VERMONT STATE COLLEGES
 VICTORIA, UNIVERSITY OF
 VINCENNES UNIVERSITY
 VIRGINIA COMMONWEALTH UNIV
 VIRGINIA COMMUNITY COLL SYSTEM
 VIRGINIA MILITARY INSTITUTE
 VIRGINIA STATE UNIVERSITY
 VIRGINIA TECH
 VIRGINIA WESTERN COMM COLLEGE
 VOLUNTEER STATE COMMUNITY COLL
 WALTERS STATE COMMUNITY COLL
 WASHINGTON STATE UNIVERSITY
 WASHINGTON, UNIVERSITY OF
 WASHTENAW COMMUNITY COLLEGE
 WAUBIONSEE COMMUNITY COLLEGE
 WAYNE COUNTY COMMUNITY COLLEGE
 WAYNE STATE COLLEGE
 WEST FLORIDA, UNIVERSITY OF
 WEST GEORGIA COLLEGE
 WESTERN CAROLINA UNIVERSITY
 WESTERN ILLINOIS UNIVERSITY
 WESTERN MARYLAND COLLEGE
 WESTERN WASHINGTON UNIVERSITY
 WHARTON CO JUNIOR COLLEGE
 WIDENER UNIVERSITY
 WILLIAM PATERSON COLLEGE
 WILLIAMS COLLEGE
 WINTHROP COLLEGE
 WISCONSIN-EAU CLAIRE, UNIV OF
 WISCONSIN-EXTENSION, UNIV OF
 WISCONSIN-LA CROSSE, UNIV OF
 WISCONSIN-MADISON, UNIV OF
 WISCONSIN-MILWAUKEE, UNIV OF
 WISCONSIN-OSHKOSH, UNIV OF
 WISCONSIN/SYSTEM, UNIV OF
 WRIGHT STATE UNIVERSITY
 YESHIVA UNIVERSITY

This Appendix contains a complete list of all Figures and Tables in the Monograph. CAUSE policy prohibits release of data about any group of individuals or institutions if there are fewer than five respondents in the group. In the Tables in this Monograph, data are not provided in a cell with fewer than five respondents; however, the number of institutions in that cell does appear. In these cases, the data are included in all of the totals.

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BIBLIOGRAPHY

- Brady, Ronald W. "Technology and Administrative Productivity." CAUSE/EFFECT, September, 1980, pp. 35-56.
- Brady, Ronald W.; Chaney, John F.; Baughman, George F.; and Wallhaus, Robert A. Administrative Data Processing: The Case for Executive Management Involvement. Boulder, Colorado: National Center for Higher Education Management Systems at WICHE, 1975.
- Collier, Douglas J. Program Classification Structure. Technical Report 106. 2nd Edition. Boulder, Colorado: National Center for Higher Education Management Systems, 1978.
- Hamblen, John W., and Baird, Thomas B., editors. Fourth Inventory of Computers in Higher Education 1976-77. Princeton, New Jersey: EDUCOM, 1979.
- Hamblen, John W., and Landis, Carolyn P., editors. The Fourth Inventory of Computers in Higher Education; An Interpretive Report. Boulder, Colorado: Westview Press, 1980.
- Mann, Richard L. A Study of the Development of Computer Based Management Information Systems in Institutions of Higher Education. Ph.D. Dissertation. Urbana-Champaign, Illinois: University of Illinois, 1973.

Mann, Richard L.; Thomas, Charles R.; Williams, Richard C.; and Wallhaus, Robert A. An Overview of Two Recent Surveys of Administrative Computer Operations in Higher Education. Boulder, Colorado: National Center for Higher Education Management Systems at WICHE, 1975.

Neiheisel, Steven R. "A Comprehensive Study of Administrative Computing at Leading Institutions of Higher Education." CAUSE/EFFECT, July 1981, pp. 18-25.

Russell, Robert E. "Computer-Based Decision Support Systems in Higher Education: The Support, Development, and Impact of MIS." Ph.D. Dissertation, University of Michigan, 1981.

Smith, Carolyn R., and Davis, Geneva C. Education Directory, Colleges & Universities 1980-81. Washington, DC: National Center for Education Statistics, 1981.

INFORMATION RESOURCES

The following CAUSE publications constitute a valuable source of information on administrative information systems in higher education:

CAUSE/EFFECT - A bi-monthly magazine for CAUSE member representatives which provides professional articles and up-to-date news about events affecting information systems in colleges and universities. Subscriptions are available to individuals or organizations not eligible for CAUSE membership and to staff members of member institutions.

CAUSE Exchange Library - A contributed library of non-proprietary administrative systems, documents and information available for exchange among CAUSE members.

CAUSE National Conference Proceedings - Proceedings of the CAUSE National Conference are published annually and include papers ranging from modern management techniques to specific system descriptions. Copies are sent to all Conferencees and are also available from CAUSE or the ERIC Document Reproduction Service; copies of individual papers are available through the CAUSE Exchange Library and from the ERIC Document Reproduction Service.